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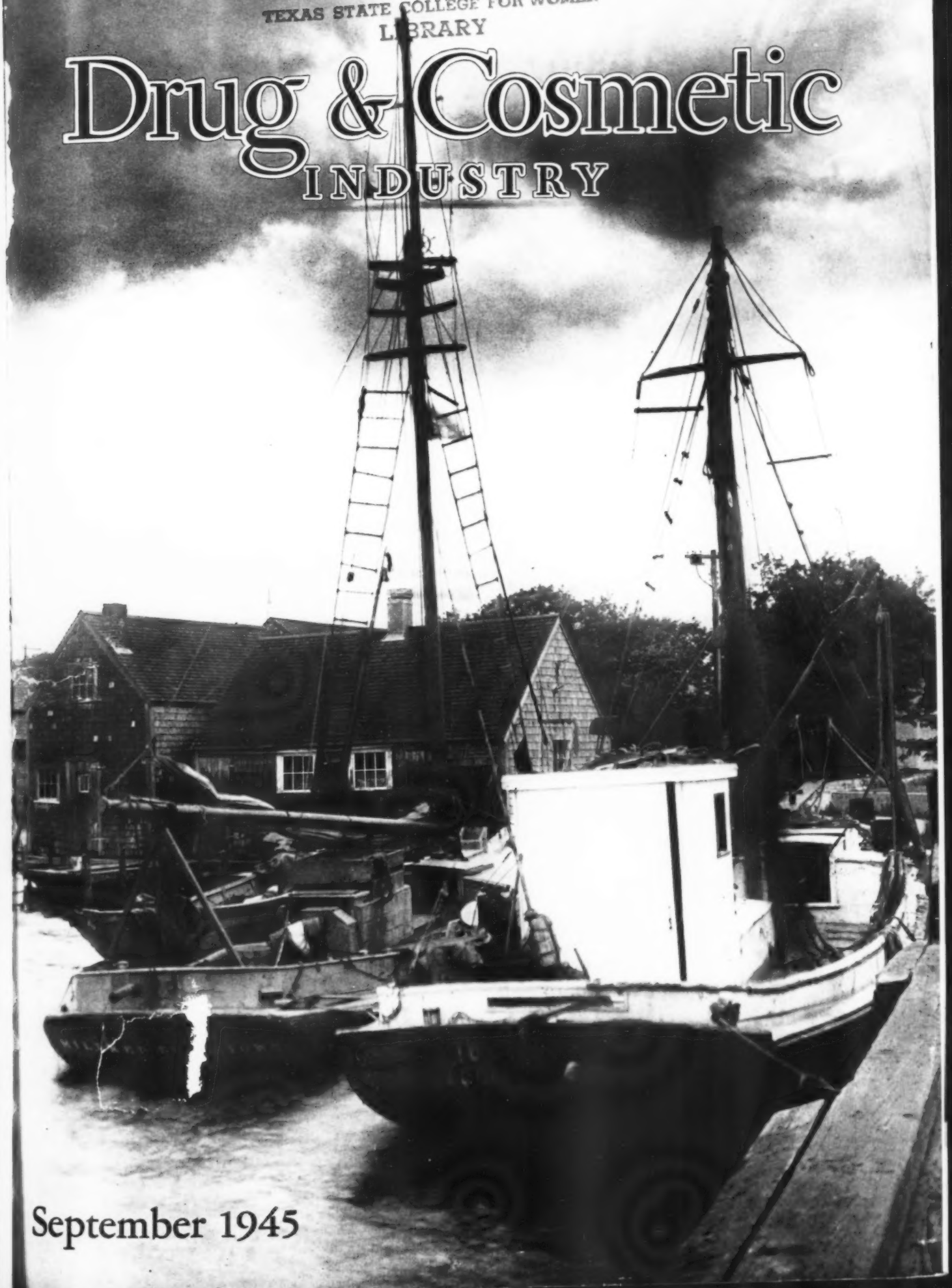
Drug & Cosmetic INDUSTRY



September 1945

Snow Top Precipitated Calcium Carbonate U.S.P. is the answer.

Yes, Snow Top is used in vitamin and antacid tablets, as a vehicle and filler and for tablet coatings.

Snow Top Precipitated Calcium Carbonate has been an accepted standard in many industries because of its uniform high quality. In the drug and cosmetics industry, Snow Top is recognized as the leader because it is exceptionally pure, is non-irritating, bulks well and has high opacity.

These qualities have made Snow Top Precipitated Calcium Carbonate invaluable in the manufacture of dentifrices, face, body and foot powders, hand creams and leg lotions, medicinal preparations, and a long list of other products.

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Check into the possibilities of using Snow Top in your process. Snow Top comes in five grades, and finer adjustments within these ranges can be made to fit your formula *exactly*.

SPECIFICATION RANGES FOR SNOW TOP

Grade	Rattle cc.	Flow cc.	2-Hour cc.	Final cc.	Drop Density g/cc.	Drop Density lbs./ft.
Super Light	30–38	40–48	70–90	55–65	.400–0.300	25.0–18.7
Light	20–30	27–40	45–70	40–55	.550–0.475	34.3–29.6
Medium	17–23	19–27	25–45	24–40	.675–0.550	42.1–34.3
Heavy	15–17	15–19	20–25	19–24	.800–0.675	49.9–42.1
Extra Heavy	11–15	11–15	15–20	15–19	.950–0.800	59.3–49.9

Snow Top Precipitated Calcium Carbonate ★ *Abietic Acid* ★ *Nuchar Activated Carbons* ★ *Liquid Caustic Soda* ★ *Chlorine* ★ ★ *Indulin (Lignin)* ★ *Liqro Crude Tall Oil* ★ *Indusoil Distilled Tall Oil* ★ *Tall Oil Pitch* ★ *Sulphate Wood Turpentine*

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Drug & Cosmetic INDUSTRY

SEPTEMBER 1945

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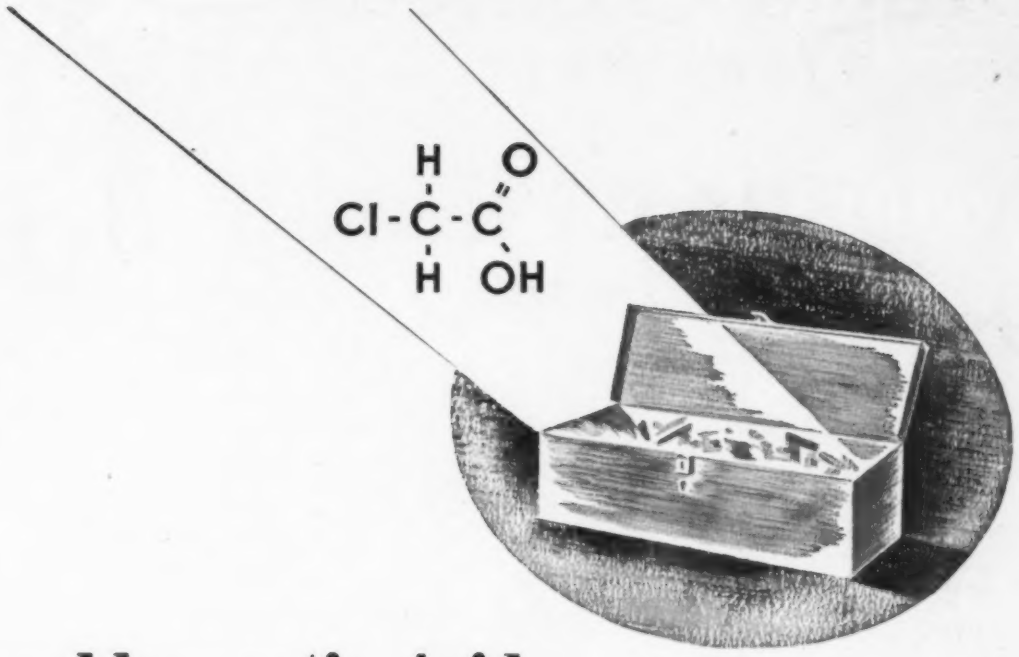

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INSIDE NEWS

SEPTEMBER PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1945

Industry Uses Enzymes to Make Syrup Sweeter, Fruit Juices Clearer

Remember the muddy-looking cider which used to appear around Halloween time? It's now largely replaced by a golden-colored, appetizing apple juice, free from discolorings and sediment. Remember cloudy, particle-filled Concord grape juice and wines? They too are also clearer today. Credit this to industry's use of pectinol enzymes by which permanent clarity is also made possible for citrus, peach and blackberry juices.

You probably recall from school days that enzymes are mysterious and complex chemicals. Their name is derived from the Greek "en" meaning "in" and "zyme" meaning "yeast." As this implies, enzymes are catalytic in character, speeding up chemical changes without themselves being consumed by the reaction. Being purified natural products themselves, they enhance the delicate flavoring of the original fruit juice and leave the vitamin and mineral content unimpaired.

Another enzyme has been brought to wide commercial use because of the prevailing sugar shortage. This particular enzyme helps convert the familiar corn syrup to one which possesses more than twice the sweetness of the original syrup.

The soft and pliant leather which we now have in belts and shoes is mainly the result of an enzyme action. For many years the tanning industry was forced to rely on a vile-smelling liquor involving the fermentation of dung and causing waste and spoilage of large stocks of raw leather. But, as a result of the development of the enzyme bate, oropon, tanners now have control over this "bating" process, eliminating bad working conditions and greatly reducing the spoilage of hides.

Normally, enzymes work at the temperature of living organisms, and, when used commercially, their action can be stopped at will by raising the temperature when the desired work is done. At the laboratories of a leading American producer of industrial enzymes, the fungi are grown to form "seed" which are "sown" on an appropriate medium under carefully controlled temperatures, and finally "harvested." The culture is then dried, ground and the enzyme extracted for commercial use. Enzymes are soluble in water and insoluble in alcohol.

However, comparatively little is known about the actual chemical structure of enzymes; and even the way they work is not known in detail. Chemists find that the enzyme is produced by certain molds in nature, and they know that by handling the enzyme in certain ways they will get predetermined results.

Certain laboratory-cultured fungi or nonflowering plants similar to mushrooms have been found to yield enzymes. These enzymes are "harvested" from the fungi and are today known to turn wood into sugar, sugar into fat, to help make buttermilk, cheese, beer, sweeter sugar syrups, clearer full-flavored wines and ciders, stronger textiles, and better leather goods and paper products.

Today, the pectinol enzymes are performing wartime jobs. With transportation facilities greatly overtaxed, fruit juices are being evaporated and concentrated to save shipping space. Through the use of pectinols, more complete concentration is achieved at faster rates of speed through the elimination of the pectic substances occurring in fruit tissues as part of the sap and cell wall.

As wartime chemical research helped discover enzymes for giving clarity to fruit juices and develop other desirable industrial processes, wartime packaging research helped develop tin containers to meet the most rigid battlefield requirements. These parallel developments are sure to provide a *better* product in a *better* container when can production and distribution restrictions are lifted. 1069

More Milk Tests for Lactic Acid

Lactic acid forms only a very small proportion of the acids produced when milk is subjected to relatively high temperatures, as in canning. For that reason, high lactic acid content, that is, high for the small amount of total acid present, indicates an undesirable condition in the raw milk from which the canned product is derived, and determination of lactic acid is advocated as a quality control test. 1070

Quick Tomato Paste

Tomato paste processed at 210 to 220 deg. F., while moving at high velocity in continuous streams through tubes in a heating chamber, cooled immediately thereafter to 190 to 200 deg. F., and filled into sterilized cans, maintains its color and body, according to a recent patent.

Sealed cans must be inverted immediately to insure sterility in the headspace. It is claimed that paste of 30 to 65 percent solids can be produced readily in the apparatus described. 1071

Keeping Water Clean

Outwitting algæ where large quantities of water are used for temperature control, pasteurization or washing, is complicated by the fact that these plant organisms have practiced for millions of years the trick of adaption to environments that changed in physical and chemical characteristics. Temperature extremes do not faze them. Abrasion resistance of a high order is built up in their slimy coats. Chemicals that at first seem destructive are soon tolerated. But the little plants break down under the stress of cyclic adaption.

In nature, changes in environment tend to follow a slow drift, developing more and more of the same thing. When the drift is interrupted, adaption is made more difficult. So if two different types of chemicals, each destructive to the algæ on first application, are used alternatively, changing each time as a tolerance seems to be established, algæ can be kept out of industrial water.

One pair that can be used has one member containing sulphates and silicofluorides, while the other utilizes pentachlorophenol and cresylec acid. 1072

Controls Stem End Decay in Citrus Fruit

USDA and Texas Agriculturists found an organic compound of mercury to be beneficial to control stem end decay of lemons and other citrus fruit. This compound is a poison, yet the rinds of lemons are used in grating for lemon pies, and pieces of lemons are placed in various beverages and specialty dishes. Now, a report is available to show that the mercury can be easily washed off. This process leaves no mercury in the pulp or in the peels of the lemons. A method was prepared for testing the mercury solution used to dip control this citrus disease. 1073

Eliminates Aquatic Weeds

Orthodichlorbenzene has been found to be very effective in the elimination of aquatic weeds. Single treatments have eliminated weed growth in irrigation canals for periods up to six months. Regrowth has been delayed or retarded. Varying characteristics of the water, such as salinity and hardness, are believed responsible for the occasional variation in effectiveness of the treatment. The material is applied in the form of an emulsion. It is said not to harm crops or canal bank vegetation. Livestock are reported not to drink water containing sufficient quantities of the chemical to be harmful. 1074

NATIONAL CAN

PLANTS: NEW YORK • BOSTON • BALTIMORE • CHICAGO • HAMILTON, OHIO • FORT WAYNE, INDIANA

Peanut Crop Promises Greater Industrial Use

A more further utilization of the peanut crop is announced. After the oil is extracted the high protein meal, used for livestock feed, has been found to have even greater industrial use as adhesives, coatings and sizings. After the protein is extracted from the meal the waste liquor, formerly a nuisance in streams and sewers, has been found to contain 1% sugar. This treated with a food yeast yields a protein feed valuable for its vitamin content. This same yeast, Torulopsis utilis, has been used successfully in treating the waste of sweet potato starch mills. 1075

Preserving Nuts

Preserving quality in minor ingredients is a constant food plant problem. It is particularly so today when new sources of materials must be utilized.

Nut meats for use where sugar is not objectionable, can be sterilized by dipping in boiling 50 to 75 percent sucrose solution, with 1 percent salt added, followed by drying in hot air. Treated nuts should be stored in sterile glassine bags at room temperature and 42 to 50 percent relative humidity until used. Refrigerator storage destroys crispness. 1076

Fertilizers Improve Tomato Crop Quality

Using fertilizers increases crop yield. But growers have observed that it may also improve crop quality. Now research horticulturists prove these observations have a basis on cannery tomatoes. Fertilizer treatments not only increased yields but also made each ton of tomatoes more valuable because of larger percentage in the U. S. No. 1 grade. 1077

Table Oil From Shade Tree

An ornamental tree, now coming into use for shade on cacao plantations in Brazil, has been found to yield from the seed 22% oil with a clear, pleasant odor making it desirable for table use. The tree, Clitoria racemosa, is being introduced by the Rio de Janeiro Botanical Garden. 1078

How Smooth Is Smooth?

Plastics and light are combined in a new method that the Bureau of Standards has developed to tell how smooth are smooth metal surfaces. Smoothness of surface finish is particularly important to food plants where apparatus must be kept clean and sanitary. 1079

Plasticizer for Synthetic Rubbers

A patented plasticizer specially developed for synthetic rubbers is used along with the customary fillers and other ingredients. 1080

Technical Topics

SUBMERGING OIL FOR MOSQUITOS—Hydrocarbon oil of a highly cyclic nature, having a specific gravity at least as heavy as water, is claimed to be more efficacious than a floating oil for the extermination of mosquitos and other insects during their water-dwelling phase. The reason is that the submerging oil does not have the fault of the floating oil which is difficult to maintain as a continuous film, as it must be to be effective. 1081

SPEEDY STERILIZATION—A patent has recently been issued for rapidly rotating a sealed can of liquid about its axis to increase heat transfer to the contents. This makes it possible to heat and to cool the contents rapidly enough to obtain the benefits of "flash" heating, while protecting the product from exposure to the air. In evaporated milk, the speed-up in sterilization prevents cooked flavor and carmelization. 1082

MOTHS FOR PERFUME—The Gypsy moth, serious insect pest of the orchard, may have a valuable economic use to make it worth breeding instead of killing. English scientists have discovered that a benzine extract of the abdominal tips of the female indicate a valuable use in perfumery, particularly as a perfume fixative. 1083

PREVENTS OIL FOAMING—Polymerized dihydrocarbonsilicones are declared to be effective, even when present to the extent of but 0.1 percent, in preventing and breaking foaming in aviation lubricating oils. Similar claims are made for hydrocarbon silicates in a recently issued patent. 1084

SOY BEANS FOR BABIES—According to recent research, strained green soy beans have been shown to have good nutritive value and other characteristics that favor their inclusion in baby foods. Previous use of soy beans for babies has taken the form of the curd or milk from the dried beans. 1085

NEW INDUSTRIAL STABLE CHEMICAL—A new industrial chemical claims a stability and melting point sufficiently high that products made from it may be used at more elevated temperatures than those from phthalic anhydride. 1086

SUNTAN CREAM—A newly discovered suntan cream is reported to function excellently in absorbing ultra-violet light, and in filtering out sun rays dangerous to the skin while passing the desired tanning rays. 1087

SUPERIOR LIQUID DRESSING—A new formula for liquid belt dressing has been developed, and it is said to result in a distinctly new, superior liquid dressing. 1088

TREATMENT FOR LOCKJAW—A new method of preparing a tetanus toxin aimed at the prophylaxis and therapy of lockjaw is reported. 1089

ELIMINATES HEAD LICE—Lauryl thiocyanate, in oil solution, is now being offered for the extermination of head lice. 1090

BE SURE OF YOUR VITAMINS—Beta carotene is advised for use as a standard in vitamin A determinations. Those made with U. S. P. reference cod liver oil No. 2 may be from 30 to 44 percent above the actual values, due to instability of the vitamin in the oil and to variations in potency. This much overoptimism in estimation of added vitamin A could reduce a seeming safety factor to a deficit. 1091

WATERPROOF COATING RESISTS FIRE—A new resilient waterproof coating is on the market which is said to be unusually resistant to extremes of temperature, acid fumes and fire. It is designed for use on roofs, walls, and other exposed surfaces. 1092

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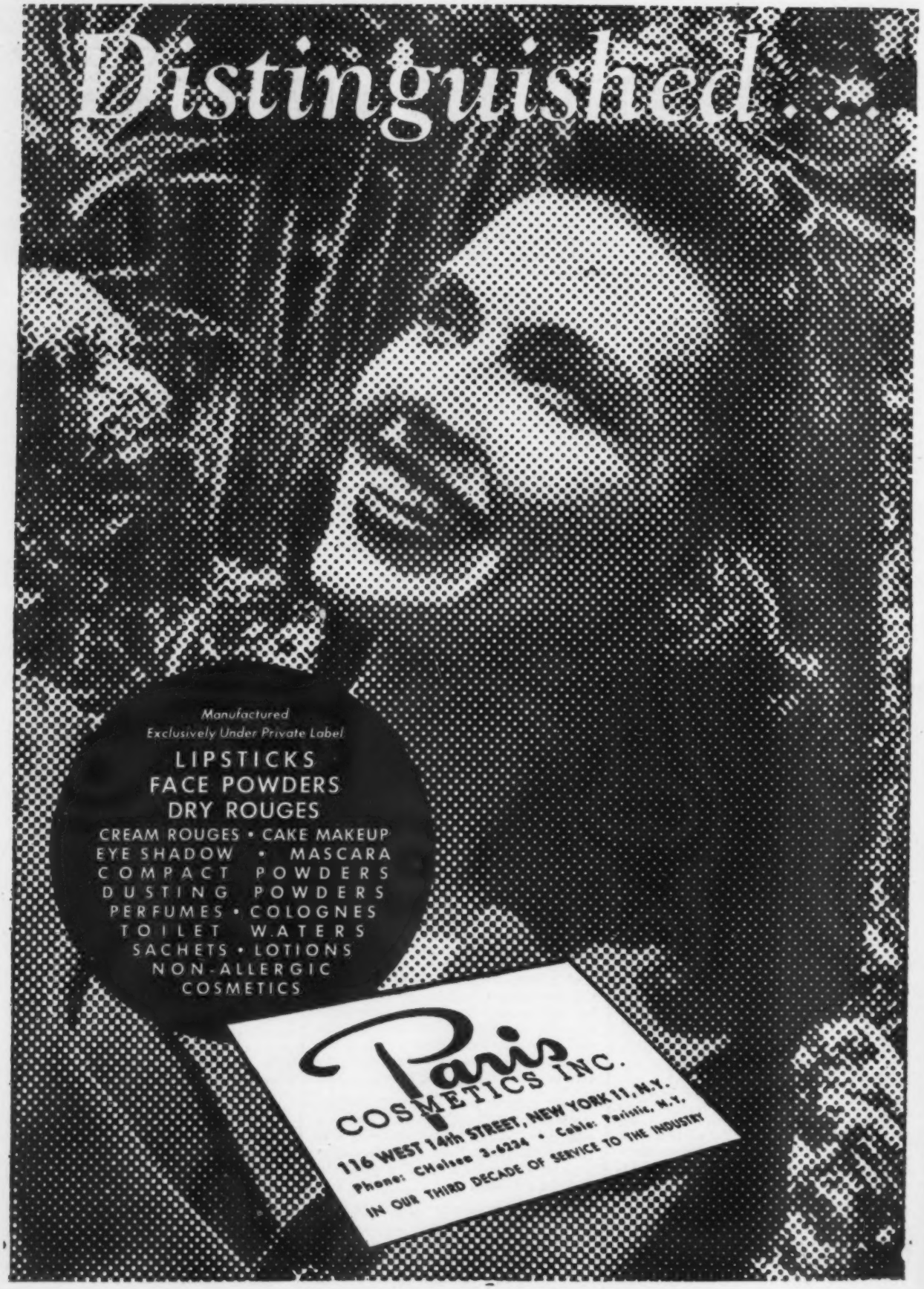
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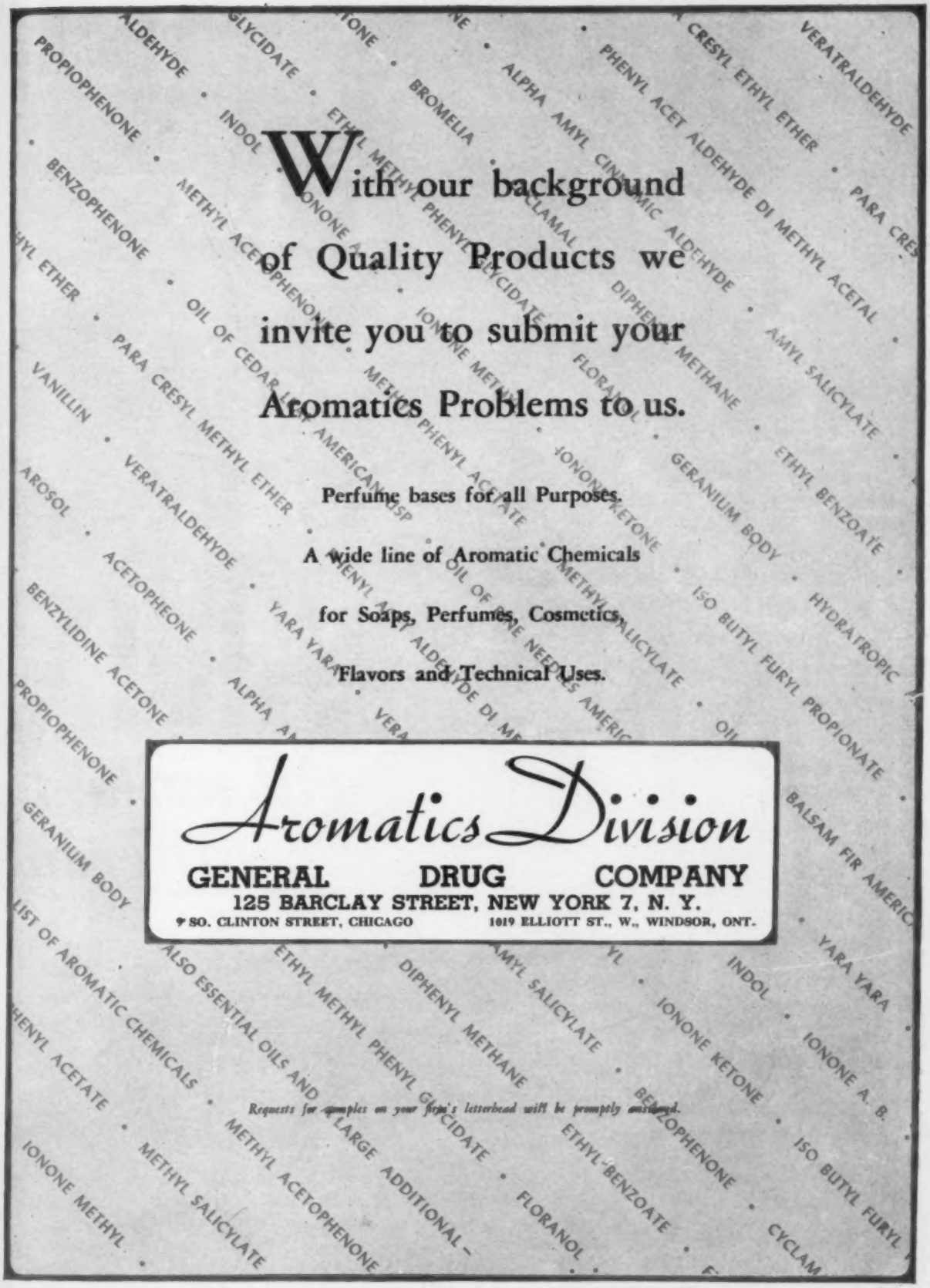
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Iron	• 0.0 ppm
Copper	• 0.0 ppm
Ash	• none
Color - A.P.H.A.	• 50 max.
Odor	• faint sulfidic

PHYSICAL PROPERTIES

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Boiling Point	• 96° c/5mm
(Uncorrected)	• 108° c/15mm
Melting Point	- 16.5° c
Specific Gravity	• 1.325 @ 20°c
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5. LABELS

Keeping in close touch with the latest regulations, we can assist you in the wording and design of labels for final submission to government authorities.

Whether you are considering immediate or future production, our technical sales director will be glad to talk over your manufacturing problems with you.

Strong Cobb & Company, Inc.

CLEVELAND 4, OHIO

ARMY E NAVY

SUBSIDIARY OF STANDARD BRANDS INCORPORATED

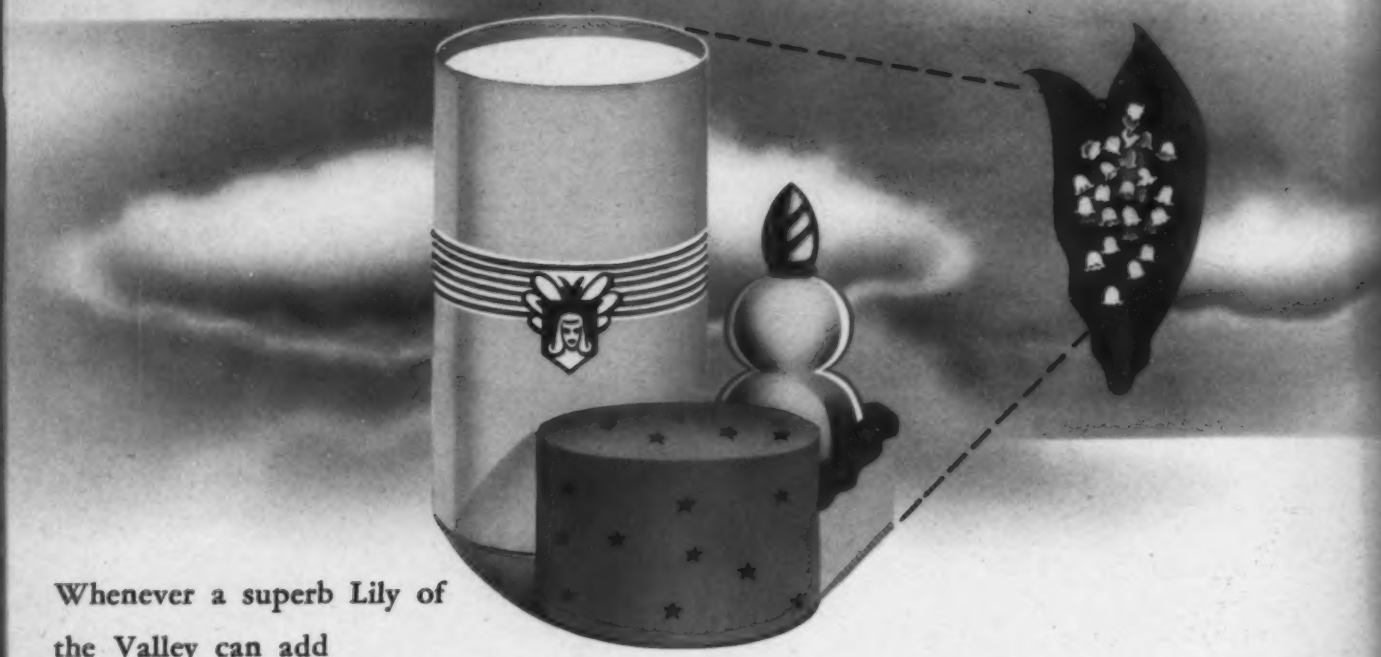
MANUFACTURING CHEMISTS SINCE 1833

Your key to success for a whole line of cosmetics . . .

Myonal Summus

—a Lily of the Valley creation
by Albert Verley & Company

—TURN THE



Whenever a superb Lily of the Valley can add

a note of rare distinction

. . . consider Myonal Summus by Albert Verley & Company

. . . for it is one of the very few existing creations which the perfumer can fit into his complete range of projects.

Be it a perfume, a cream odor, a toilet water or cologne, even a face powder—Myonal Summus imparts a delicate note not to be compared with any ordinary Lily of the Valley.

Almost any fantasy can be made more flowery and effectively sweetened with this fine creation.

In every major classification of odors, the house of Albert Verley & Company offers you the same originality and distinction, vital to the success of your products in the competitive era ahead.

We are interested in that success. To it we would like to contribute our complete facilities and services—including aromatic materials in any desired stage of fabrication up to the finished composition, and counsel to aid in the constant search for new ideas.

Consult us in confidence. Ask for working samples of Myonal Summus.

FOREIGN REPRESENTATIVES

Maximo A. Kuderli
Rodriquez Pena 233
Buenos Aires, Argentina

Alberto Farres
Isabel La Catolica 45, Desp. 420
Apartado 7233
Mexico, D. F.

Dr. Blem & Cia. Ltda.
Post Box 2222
Rio de Janeiro, Brazil

Moller & Rothe, Ltda.
Casa Cocodan
Edificio "Rex" Oficina No. 308
Bogota, Rep. de Colombia

Albert Verley
AND COMPANY
Headquarters for Odor Appeal

232 EAST OHIO STREET, CHICAGO 11, ILL.
114-116 EAST 25TH STREET, NEW YORK 10, N. Y.
MEFFORD CHEMICAL CO., LOS ANGELES

Synthetic Aromatic Products and O[illegible] Isolates • Synthetic Flower Oils and Aromatic Bases • Bouquets and Finished Compositions.

Oxzyn

SERVES THE TRADE EXCLUSIVELY

WITH QUALITY

LIPSTICKS

CREAM ROUGES

EYEBROW PENCILS

CREAMS

COMPACTS ROUGE POWDER MAKEUP

EYE SHADOWS

WATERPROOF MASCARAS

FACE POWDERS

WE ALSO MANUFACTURE POWDER PUFFS, VANITY PUFFS, LOOSE SIFTER POWDER DEVICES AND SPECIAL LAMSDOWNE PUFFS

PRODUCTS MADE IN CONFORMITY WITH THE PURE FOOD, DRUG AND COSMETIC ACT
PRODUCTS LIABILITY INSURANCE CARRIED

OXZYN COMPANY

NEW JERSEY OFFICE
ONE PLEASANT AVENUE
CLIFTON

MANUFACTURING
Cosmetics of Quality
SINCE 1877
AUXILIARY PLANT • LOWELL, MASS.

CANADIAN OFFICE
54 OSLER AVENUE
WEST TORONTO, ONTARIO

schimmel

for

synthetic fixatives

Civet Paste W

But for an addition of civet many a perfume would be lifeless and insipid. This well balanced substitute for the natural product is also valuable for its musk by-odor. It is readily soluble in benzyl benzoate, alcohol, and other similar solvents.

Muscaro W

Completely captures the faculty of musk of merging, intensifying, and leveling off the ingredients of a perfume. Used in combination with Musk Xylol, Ambrette, and Ketone, it imparts to them the Tonkin effect not present in ordinary musk substitutes. Easily soluble.

Write us on your firm's letterhead for samples and further information.

SCHIMMEL & CO., INC.
601 WEST 26TH STREET
NEW YORK 1, N. Y.

An IMPORTANT Announcement

Regarding

LANOLIN

As "America's Largest Supplier of Lanolin," we welcome the revocation of WFO-76 because, once again, you may purchase *any* quantity of Lanolin and from *any* supplier. It means once again, a return to the principle of purchases on the basis of *value* received, instead of volume received. It means once again, a return to competitive selling . . . the principle of *quality*—not quantity.

BENEFITS OF WAR RESEARCH

But most important of all, the release of Lanolin means that the Drug, Cosmetic and Allied Industries may now enjoy the fruitful results of several years of Lanolin refining research made necessary by war-time urgency. Malmstrom is proud of its contribution to this research . . . research which brought forward a greatly improved Lanolin . . . a product of greater stability and purity than any grade heretofore available.

We were not able to embody these qualities in the Lanolin sold during the last two years because of limitations in processing time as well as restrictions under the allocation orders and scarcity of wool fat itself. However, within the next few weeks we expect that this greatly improved grade of Malmstrom's Nimco Brand Lanolin will be available in quantity.

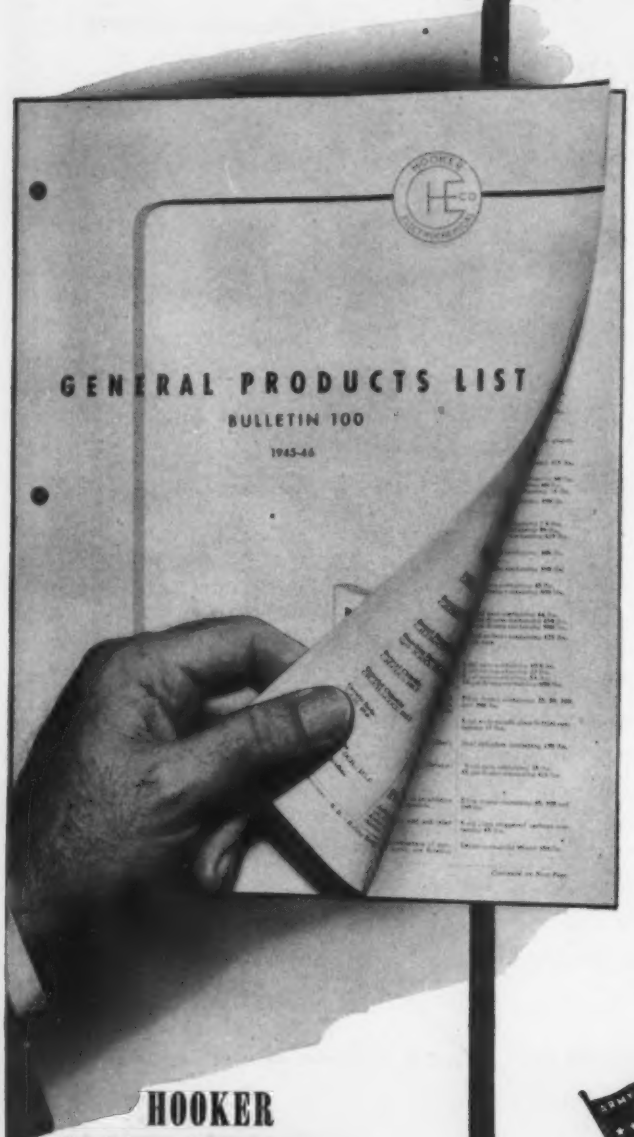
If you are interested in product improvement through the use of Lanolin, we urge that you send for testing samples immediately.

N. I. MALMSTROM & CO.

America's Largest Suppliers of { **LANOLIN** • Anhydrous U.S.P. • Hydrous U.S.P. • Absorption Base • Technical
DEGRAS • Neutral and Common • Wool Greases

147 LOMBARDY STREET • BROOKLYN, NEW YORK

Seven New Chemicals Have Been Added to Hooker's General Products List



What is the boiling range of Hooker Monochlorbenzene? What is the chlorine content of Hooker Sulfur Dichloride? Is Lauryl Chloride a liquid or solid and what are some of its uses? In what size containers is Hooker Cyclohexanol shipped?

This is the type of information you will find in the new edition of the Hooker General Products List of nearly 100 Chemicals. Seven of these are new developments making their first appearance among the other Hooker Products.

A copy of this new bulletin which gives descriptions, principal specifications, uses and shipping information will save you time and trouble in selecting chemicals for your requirements.

When in need of chemicals, make it a habit to look at the Hooker General Products List. In that way you can be sure of the uniform high quality and purity that have been pleasing users for years. Technical Data Sheets and samples of products in which you are interested will be sent on request. Our Technical Staff will be glad to assist in the application of chemicals to your particular problems.

Take the first step in getting acquainted with Hooker by sending for this new edition of our General Products List.

Just type your name and "Bulletin 100" on your letterhead and a copy will be sent to you.

HOOKER ELECTROCHEMICAL COMPANY

13 Forty-seventh Street
Niagara Falls, N. Y.

New York, N. Y. Tacoma, Wash.
Wilmington, Calif.

HOOKER CHEMICALS

Caustic Soda **Muriatic Acid** **Sodium Sulfide**
Paradichlorbenzene **Chlorine** **Sodium Sulfhydrate**

8323

EXCHANGE ORANGE OIL

First in America for Orange Flavor

Give it all your tests for *quality, uniformity,* and *strength.* The results speak for themselves! You'll find Exchange Oil of Orange puts more *real orange flavor* in your products than any other orange oil.

Because it's made only of fruit from the "Sunkist" groves of California... in the largest orange products plant in the world... accepted and reordered by men and women who know orange flavor.

Copyright, 1945, California Fruit Growers Exchange, Products Dept.

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180 Varick Street, New York, N.Y.

FRITZSCHE BROTHERS, INC.
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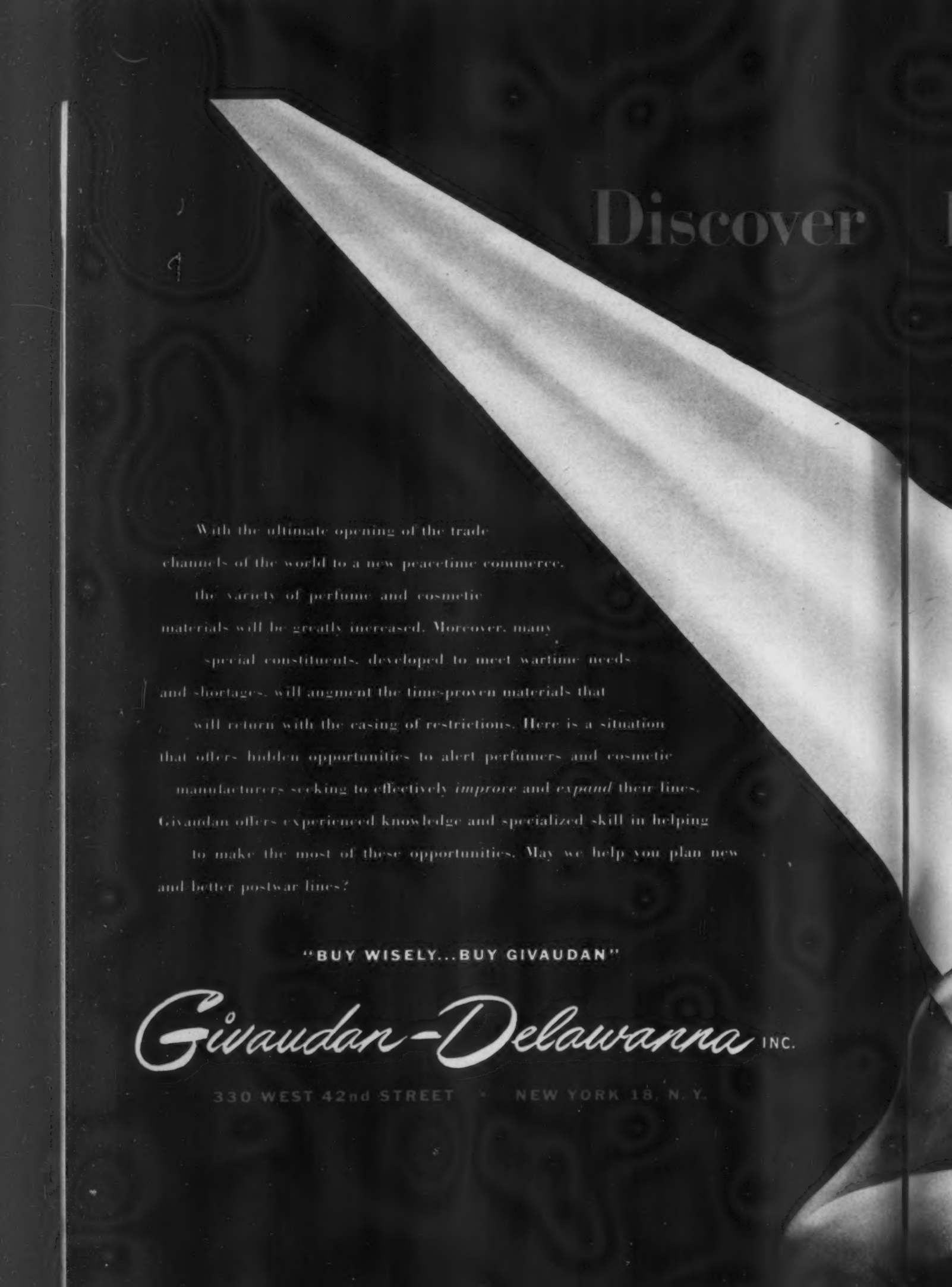
Distributors for

CALIFORNIA FRUIT GROWERS EXCHANGE
PRODUCTS DEPARTMENT, ONTARIO, CALIF.

Producing Plant:
THE EXCHANGE ORANGE PRODUCTS CO., ONTARIO, CALIF.

Exchange

OIL OF
ORANGE
U. S. P.



With the ultimate opening of the trade channels of the world to a new peacetime commerce, the variety of perfume and cosmetic materials will be greatly increased. Moreover, many special constituents, developed to meet wartime needs and shortages, will augment the time-proven materials that will return with the easing of restrictions. Here is a situation that offers hidden opportunities to alert perfumers and cosmetic manufacturers seeking to effectively *improve* and *expand* their lines. Givaudan offers experienced knowledge and specialized skill in helping to make the most of these opportunities. May we help you plan new and better postwar lines?

"BUY WISELY...BUY GIVAUDAN"

Givaudan-Delawanna INC.

330 WEST 42nd STREET • NEW YORK 18, N. Y.

hidden opportunities
WITH CLUES BY Givaudan

Want to save a favorite fragrance?

depend on dupont

HYDROXYCITRONELLAL SUBSTITUTE #5016

Lilac, Jasmine, Hyacinth—does your product require the faithful simulation of these fragrances? Are you looking for an "out" in the Hydroxycitronellal shortage? Du Pont's Hydroxycitronellal Substitute #5016 is an accurate reproduction of the scarce original. It can be used with entire confidence as a wholly satisfactory replacement.

Try it in *your* formula. See how it helps to hold the original tone of your compound. You can count on it, like all Du Pont products, to be always uniform, pure, chemically consistent.

Whatever perfume problem you have, bring it to Du Pont. Our Aromatic chemists and perfumers have the "know how" you may need to help preserve any product's fine fragrance. You can always depend on Du Pont.

du pont aromatics

DU PONT

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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

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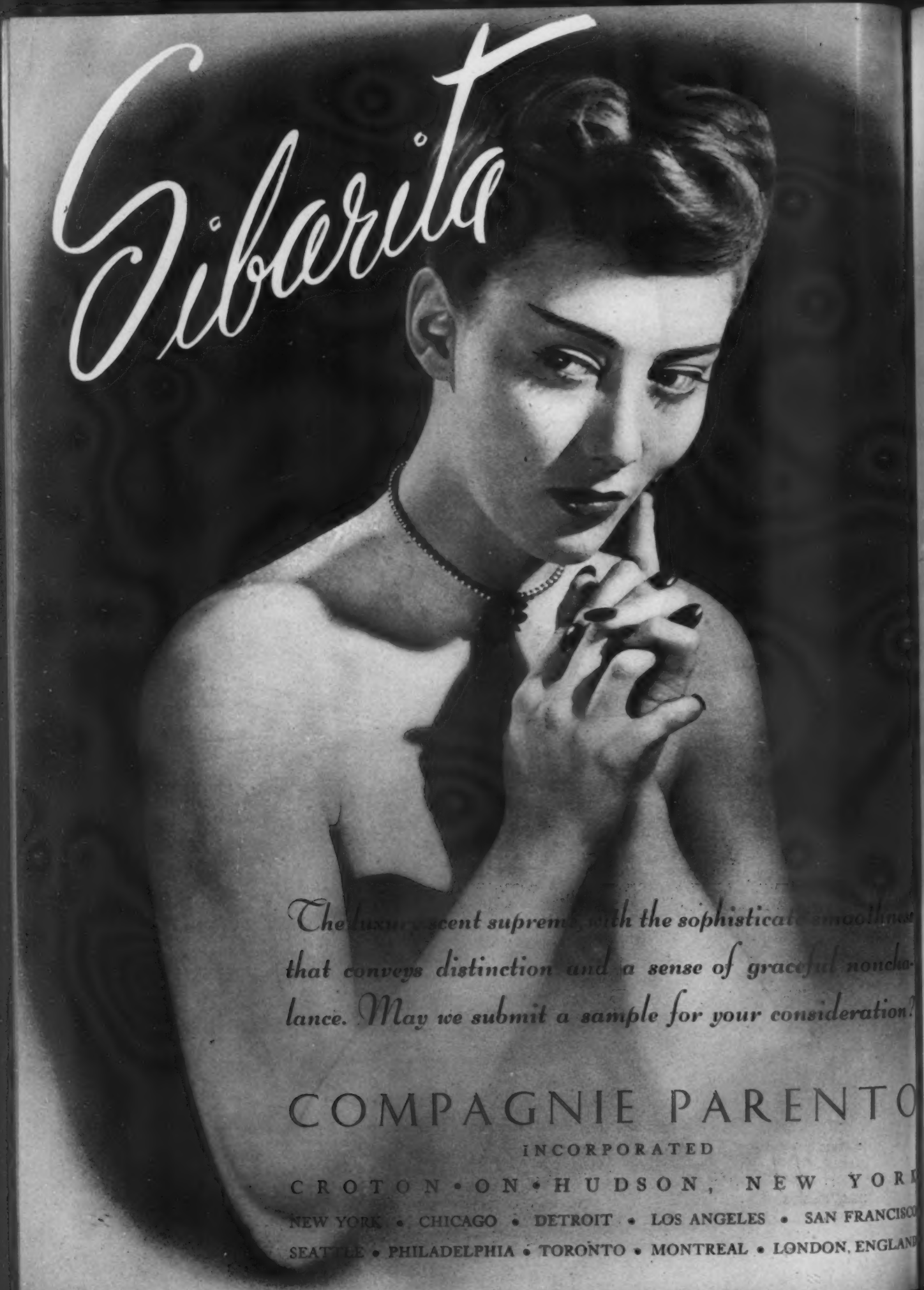
MARTIN MOLECULES ARE ON THEIR TOES.....

• They leap into action as gracefully as our little ballet-dancing friend here.

• In Martin's new depilatory crême they remove all trace of hair in four minutes. And it's absolutely odorless! Certainly it contains genuine T Y O, the wonder-working ingredient.

MARTIN LABORATORIES 251-255 EAST 139TH STREET, NEW YORK 51, N. Y.

MAKERS OF TYO THIOGLYCOLLIC ACID AND ITS DERIVATIVES • FOUR PLANTS THROUGHOUT THE COUNTRY


Cibarita
The luxury scent supreme with the sophistication that conveys distinction and a sense of graceful nonchalance. May we submit a sample for your consideration?
COMPAGNIE PARENTO
INCORPORATED
CROTON • ON • HUDSON, NEW YORK
NEW YORK • CHICAGO • DETROIT • LOS ANGELES • SAN FRANCISCO
SEATTLE • PHILADELPHIA • TORONTO • MONTREAL • LONDON, ENGLAND

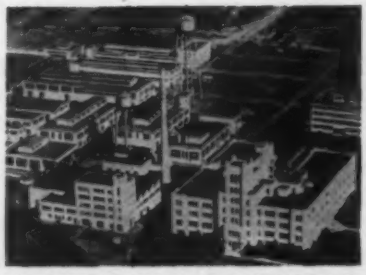
MADE FOR THE PHARMACEUTICAL INDUSTRY WITH SCIENTIFIC PRECISION

If you use bulk vitamins in the making of any pharmaceutical product, you know the importance of having a source of material of quality and potency beyond question.

In specifying Vitamins 'Roche' you are assured precisely that.

Vitamins 'Roche' embody the knowledge of world-pioneers in scientific research, plus the manufacturing skill and production control accrued while making vitamins by the tons. Whether for ampules, tablets or capsules, vitamins 'Roche' also are made to embody just those characteristics which insure highest salability.

That is why your best manufacturing move is to specify vitamins 'Roche'—for thiamine hydrochloride, riboflavin, ascorbic acid, pyridoxine hydrochloride, alpha-tocopherol acetate, nicotinic acid, nicotinamide, calcium pantothenate.



HOFFMANN-LA ROCHE, INC.
Vitamin Division, Nutley 10, N. J.

HIGHLIGHTS FROM THE SEPTEMBER ISSUE

American Druggist

THE BUSINESS MAGAZINE OF EDITORIAL VITALITY

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As Predicted a Year Ago

In August 1944, we warned the industry these regulations were coming. The article this month presents a complete report on the new regulations effective October 10th, and a history of all labeling regulation. Every agency, manufacturer, and retailer should read it and file it for future reference.

For Better Cosmetic Clerks

Tied in with our cover, the four page primer of Cosmetic Selling, prepared by a recognized expert, will give the retail druggist the information he needs to boost his cosmetic sales even higher than they are now.

Pills and Private Enterprise

No one values private enterprise more than an independent druggist. This hard-hitting article by Knox Ide will help him guide the thinking of his community. Like our July issue on world problems, this article recognizes the importance of a druggist as an influential citizen in the world today.

Peace Brings New Interest in Sundries

With peace, drug stores expect new sundry items, and we introduce for their guidance our new monthly department, "Sundry Comments", written by one of the best sundry buyers in New York. From this new monthly feature, the retail druggist will be able to know when merchandise will be available, and chart his sales effort accordingly. Another timely, on-the-nose service!

AMERICAN DRUGGIST, 572 MADISON AVENUE, NEW YORK 22, N. Y.

Seals take serious thought!

You have to think of cost. Not just price per thousand but Cost On Bottle, which includes cost of applying closures.

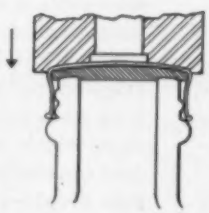
You have to think of appearance, because closures ought to help sell the package . . . ought to be attractive.

But you have to think, above all, of how well your product is sealed. That's the main purpose of a closure. And that's where Alseco Rolled-On Seals excel.

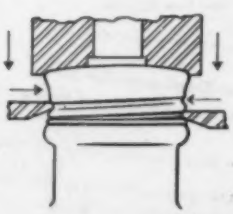
Every single R-O Seal is tailored to fit exactly and seal securely the particular container on which it goes. That means you get the very minimum of leakers and breathers. Fewer returns for credit. Less damage in transit.

Alseco R-O Seals are applied by automatic machines at speeds up to 240 per minute. An economical, trouble-free operation. Get all the facts about them now.

WHY ALSECO R-O SEALS SEAL BETTER



1. Plain-skirted Alseco Seal is seated squarely on container. Under stationary top pressure, container lip is embedded in cap liner evenly all around, effecting the seal.



2. While the seal is thus held under pressure, threads are Rolled-On to conform exactly with threads on container. Each seal is tailormade, fits perfectly, seals tighter.

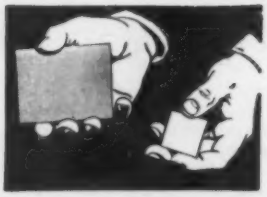
ALSECO

SEALS AND SEALING MACHINES

ALUMINUM SEAL COMPANY · 1223 THIRD AVENUE · NEW KENSINGTON, PENNSYLVANIA

How a Piece of STEEL *and a Little* TIN

HELP SELL YOUR DRUGSTORE ITEMS



It's more than 98% steel, less than 2% tin

How Steel-and-Tin Cans Help Your Drugstore Items

1. Cans don't break, split or tear.
2. Protect products from moisture and impurities in the air.
3. Cans store easily . . . save space on busy shelves.
4. Cans require no special handling in shipping and storing.
5. Labels can be permanently lithographed on cans.

• Yes . . . steel-and-tin cans are sales tools as well as trouble-free containers.

You see, labels can be lithographed right on the cans . . . with colorful, eye-catching designs which interest consumers. And cans help to build point-of-sale displays . . . tempting for druggists to feature . . . inviting for their customers to see. That's one reason why retailers find it easy and profitable to sell drugstore items packed in cans.

That's not all! Packed in steel-and-tin containers . . . which are more than 98% steel, less than 2% tin . . . your drugstore items please consumers because cans are shatterproof, safe to handle with wet, slippery hands, and they protect contents from bathroom moisture. So, if you want containers that really help to sell, pack your drugstore items in sturdy, trouble-free cans when Victory permits their unlimited use again.

WORDS TO THE WISE . . . ABOUT CANS

A nationwide advertising campaign . . . using full-page, full-color ads . . . is familiarizing shoppers all over America with the many practical advantages of *cans.* Six national magazines and the magazine sections of Sunday newspapers from the Atlantic to the Pacific carry more than 29,000,000 printed messages this month.

CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS . . . LIKE THE CAN

N. Y. Q. Chemicals Return From War

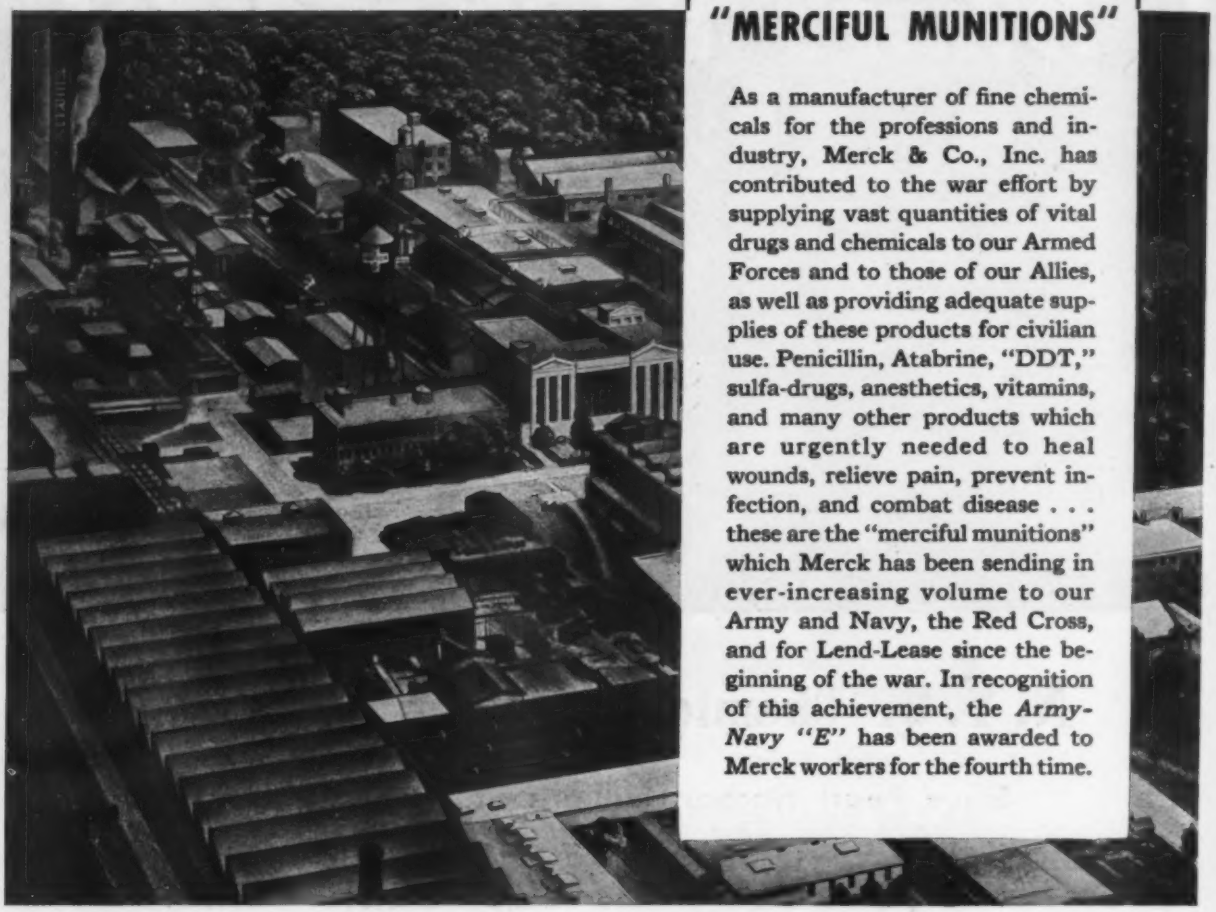
Since Pearl Harbor, millions of ounces of N.Y.Q. chemicals have gone to war. As vital weapons in the alleviation of pain, in the treatment and prevention of disease, they have performed a most important duty.

N.Y.Q., with that war duty completed, now turns to the peacetime job of meeting regular trade demands for N.Y.Q. chemicals.

GENERAL OFFICES
99-117 North Eleventh St.
Brooklyn 11, N. Y.
ST. LOUIS DEPOT
915 Market Street
St. Louis 1, Mo.

NYQ

Symbol of Quality



ARSENAL OF "MERCIFUL MUNITIONS"

As a manufacturer of fine chemicals for the professions and industry, Merck & Co., Inc. has contributed to the war effort by supplying vast quantities of vital drugs and chemicals to our Armed Forces and to those of our Allies, as well as providing adequate supplies of these products for civilian use. Penicillin, Atabrine, "DDT," sulfa-drugs, anesthetics, vitamins, and many other products which are urgently needed to heal wounds, relieve pain, prevent infection, and combat disease . . . these are the "merciful munitions" which Merck has been sending in ever-increasing volume to our Army and Navy, the Red Cross, and for Lend-Lease since the beginning of the war. In recognition of this achievement, the *Army-Navy "E"* has been awarded to Merck workers for the fourth time.

MERCK SULFONAMIDES

SULFANILAMIDE • SULFAPYRIDINE • SULFATHIAZOLE

These "merciful munitions"—in the development and production of which Merck & Co., Inc. has been privileged to play an important rôle—have rendered vital service both on the field of battle and at home.

THIS GROUP OF SULFONAMIDES IS EFFECTIVE AGAINST INFECTIONS PRODUCED BY:

Hemolytic Streptococci • Friedländer's Bacilli • Pneumococci

Gonococci • Staphylococci • Meningococci • Escherichia Coli

Lymphogranuloma Venereum • Certain Urinary Tract Infections • Trachoma • Chancroid

LITERATURE ON REQUEST

Make Merck Your Headquarters For Fine Chemicals

MERCK & CO., Inc. *Manufacturing Chemists* **RAHWAY, N. J.**

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LONDON ENGLAND

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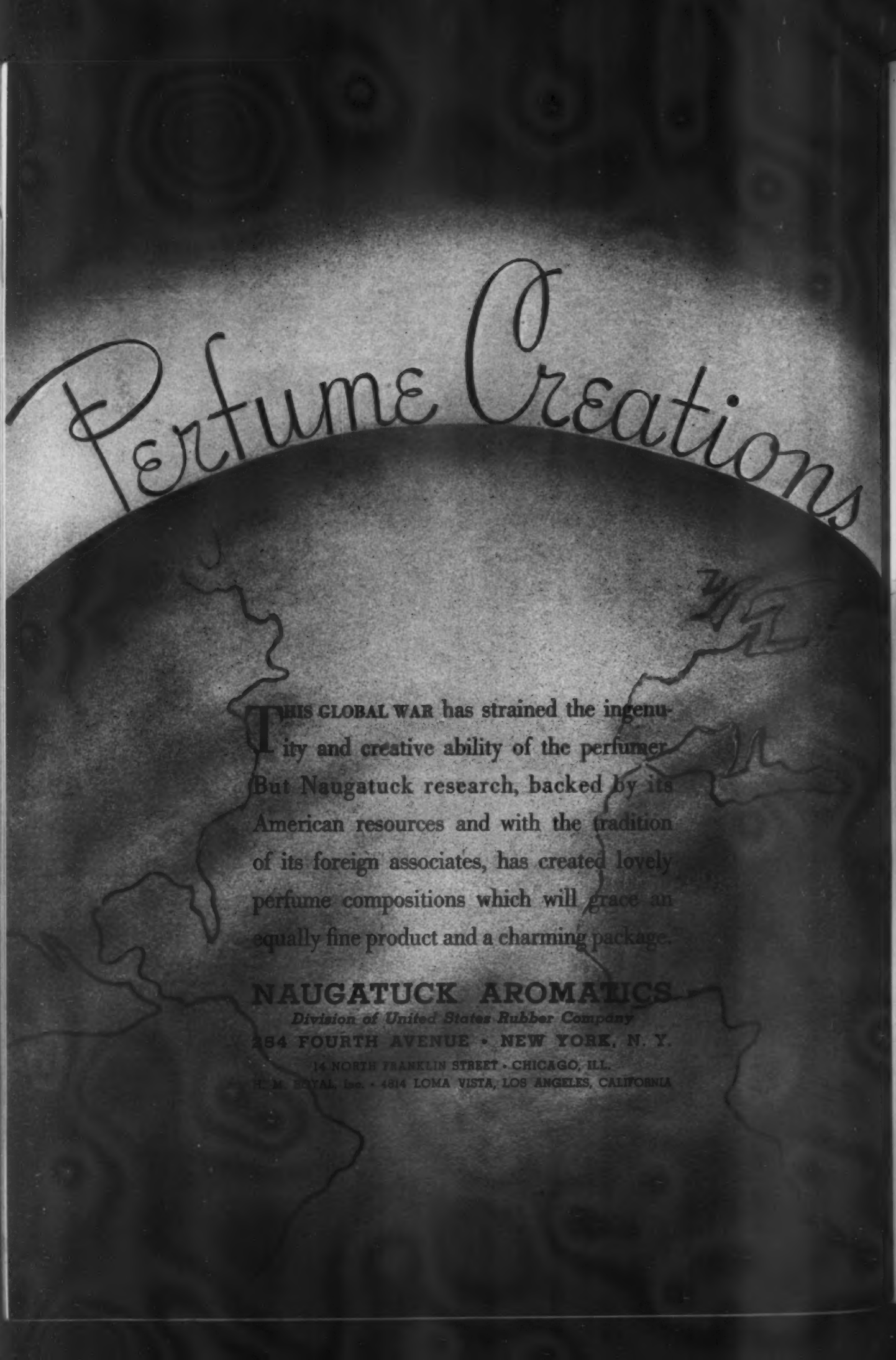
Perfume Creations
THIS GLOBAL WAR has strained the ingenuity and creative ability of the perfumer. But Naugatuck research, backed by its American resources and with the tradition of its foreign associates, has created lovely perfume compositions which will grace an equally fine product and a charming package.
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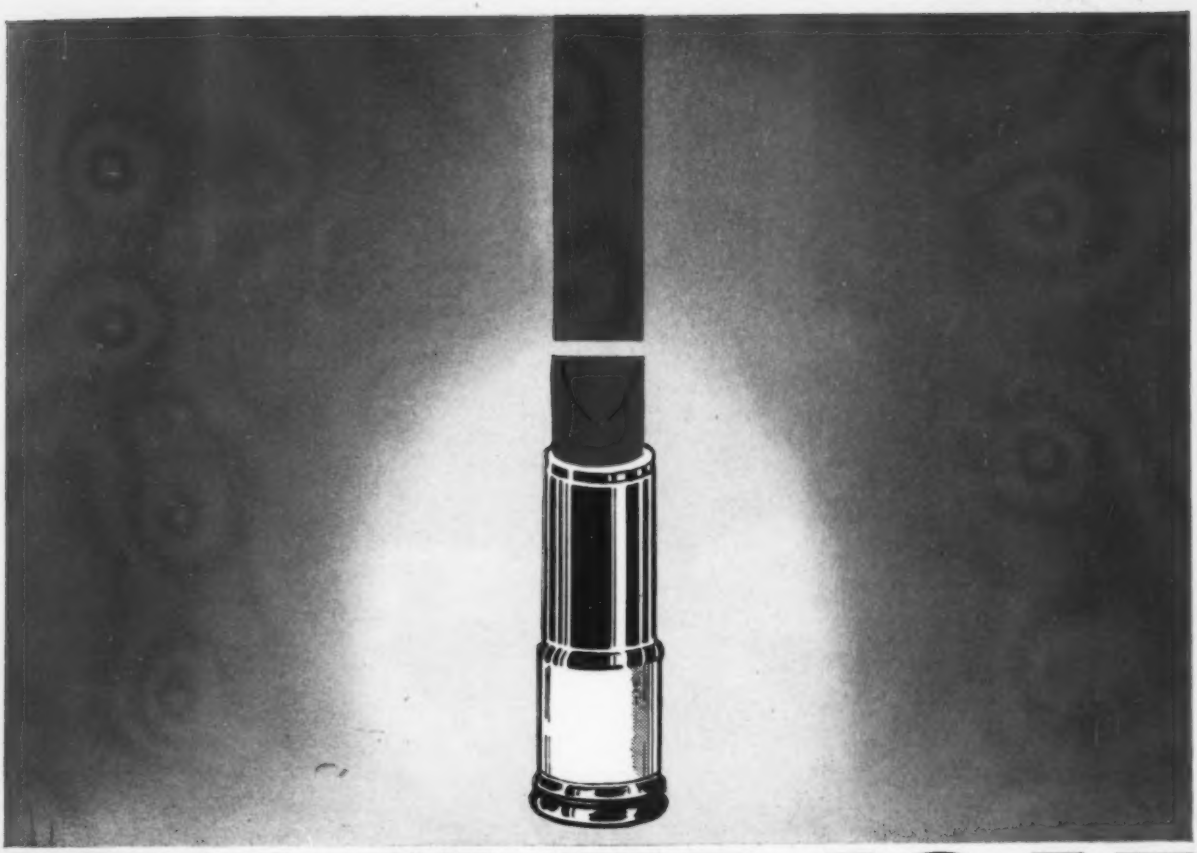
Division of United States Rubber Company
254 FOURTH AVENUE • NEW YORK, N. Y.
14 NORTH FRANKLIN STREET • CHICAGO, ILL.
H. M. ROYAL, Inc. • 4814 LOMA VISTA, LOS ANGELES, CALIFORNIA



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HEADQUARTERS FOR
ONE OR A COMPLETE LINE OF
QUALITY TIME TESTED
PRIVATE LABEL COSMETICS

HELFRICH PRIVATE LABEL COSMETICS

Rouge	Cake Makeup
Cream Rouge	Mascaras
Lipsticks	Solid Perfumes
Eye Shadow	Cream Cologne
Face Powder	Face Creams
Sachets	Lotions
Etc.	Etc.

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HELFRICH Laboratories

Exotic SUPREME

...capturing for your practical needs...in this superb interpretation of its subtle fragrance...the mystery of the exotic mood...

FLORASYNTH'S **Exotic** SUPREME

...delicate appeal...amazing practical application...An essence supreme...

Florasynthetics
for faithful
FLORAL REPRODUCTIONS
JASMIN • BERGAMOT • LAVENDER
and others...
Established Essentials!

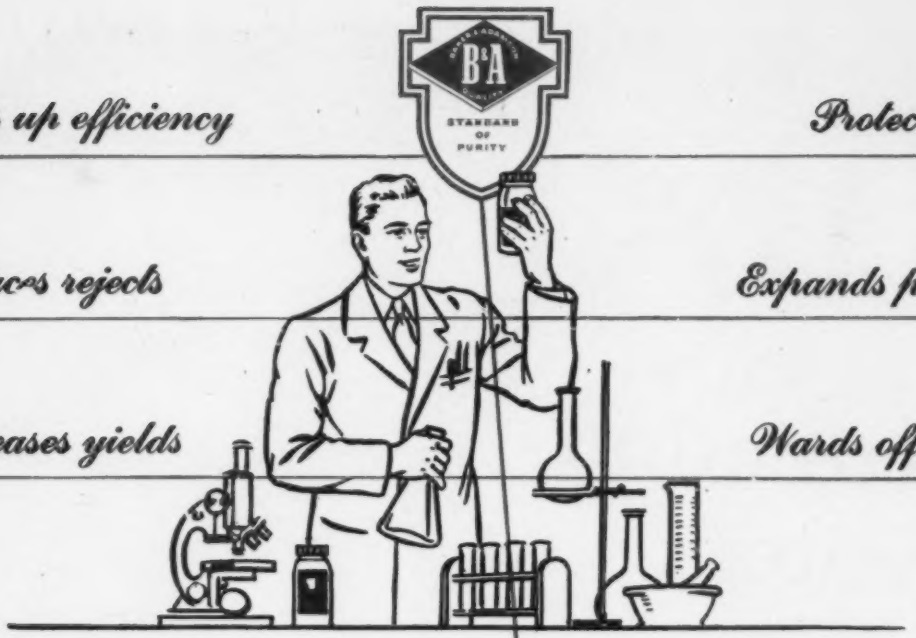
Florasynth LABORATORIES, INC.
CHICAGO 6 · NEW YORK 61 · LOS ANGELES 27

DALLAS 1 • DETROIT 2 • MEMPHIS 1 • MINNEAPOLIS 2 • NEW ORLEANS 13 • ST. LOUIS 2 • SAN FRANCISCO 3 • SEATTLE 4
Florasynth Labs. (Canada) Ltd. — Montreal • Toronto • Vancouver • Winnipeg Florasynth Laboratorios de Mexico S. A. — Mexico City

Steps up efficiency — *Protects quality*

Reduces rejects — *Expands production*

Increases yields — *Wards off mistakes*



CHEMICAL CONTROL

...Guiding modern production miracles

Production miracles rise out of today's industrial chemical control laboratories. There, the analytical chemist working with the precision "tools" of modern science takes the guess-work out of manufacturing processes. He wards off costly mistakes . . . effects production economies . . . helps give products that *extra* margin of quality that wins market acceptance.

The chemist's responsibilities start with pre-testing of raw materials and end only when the final product comes off the line, worthy of the manufacturer's guarantee. In between are the myriad exacting analyses by which he safeguards product quality and purity, reduces rejects, steps up plant efficiency, decreases time cycles, increases yields, and expands production output.

For such work, there can be no compromise on the quality and reliability of the chemicals the control chemist uses. That is why Baker & Adamson Reagents are a first choice in so many industrial control laboratories the country over. Truly, they are precision chemicals worthy of the scientists who use them. Why not make the "B&A Standard of Purity" your standard, too!

Setting the Pace in Chemical Purity Since 1882

B&A
STANDARD OF PURITY

Reagent and Fine Chemicals

BAKER & ADAMSON

Division of GENERAL CHEMICAL COMPANY, 40 Rector St., New York 6, N.Y.

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In Wisconsin: General Chemical Wisconsin Corporation, Milwaukee, Wis.

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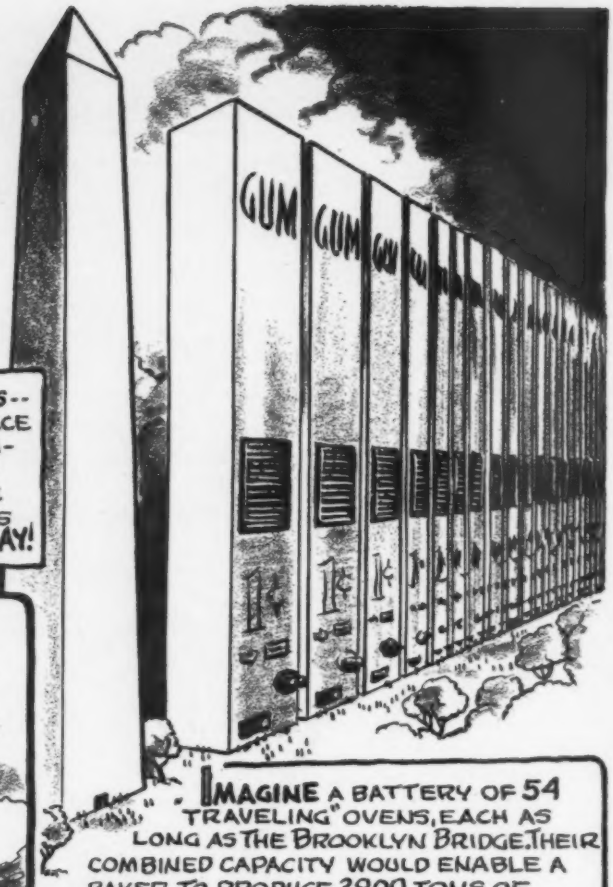

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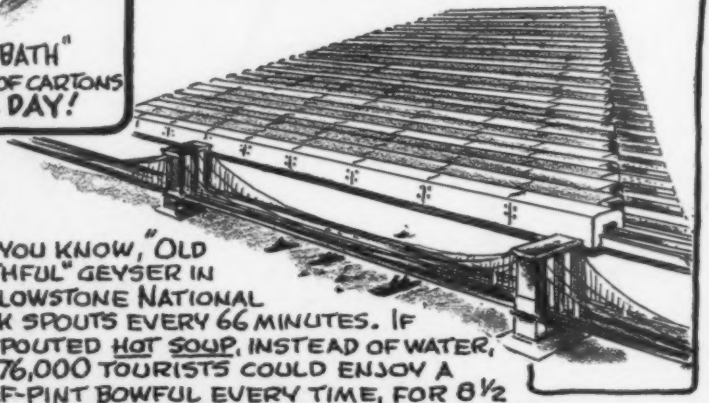

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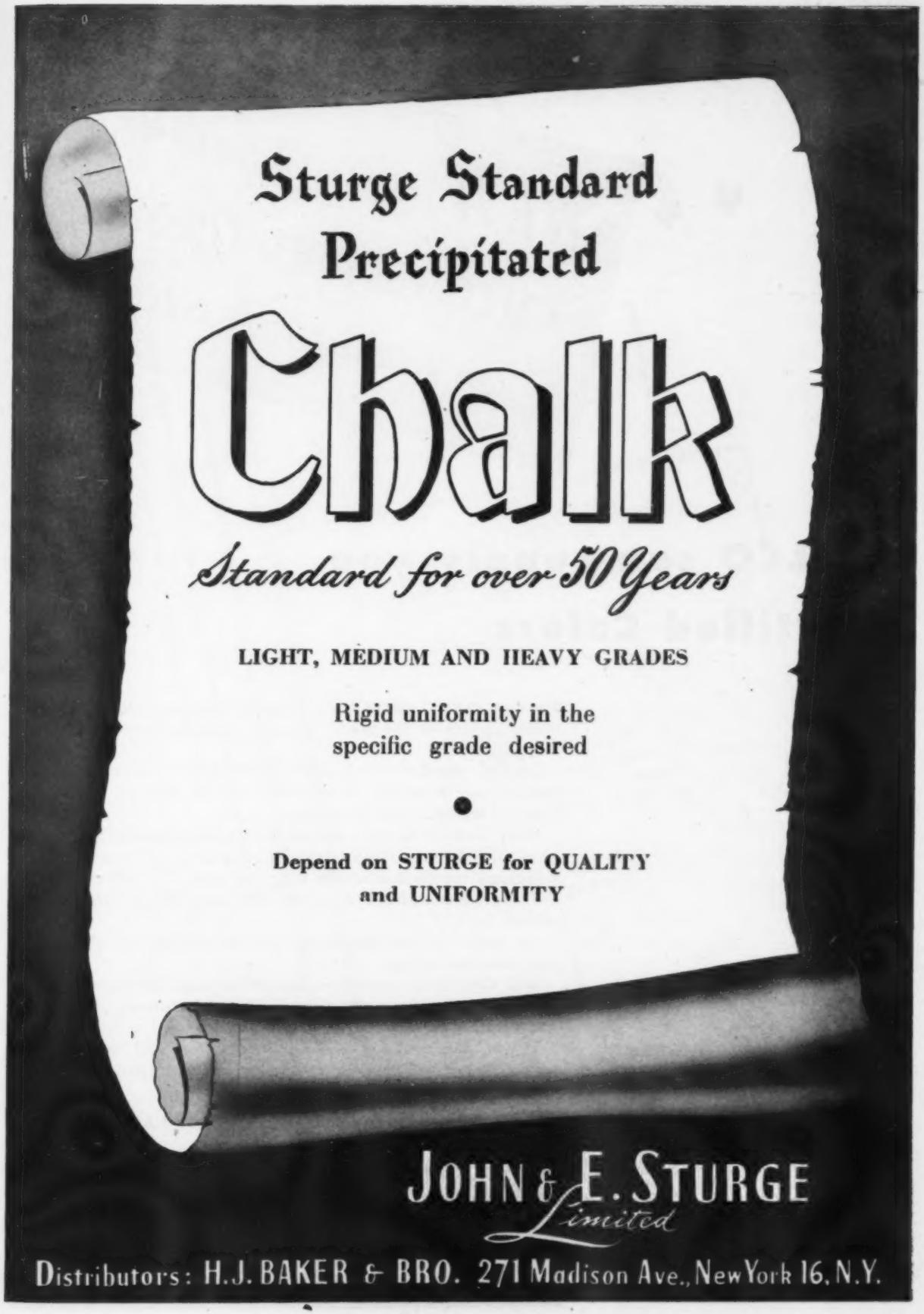
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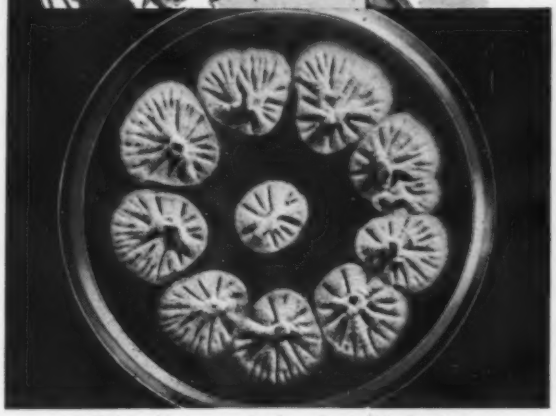

Enlarged photograph of a culture dish showing separate colonies of Penicillin producing mold.

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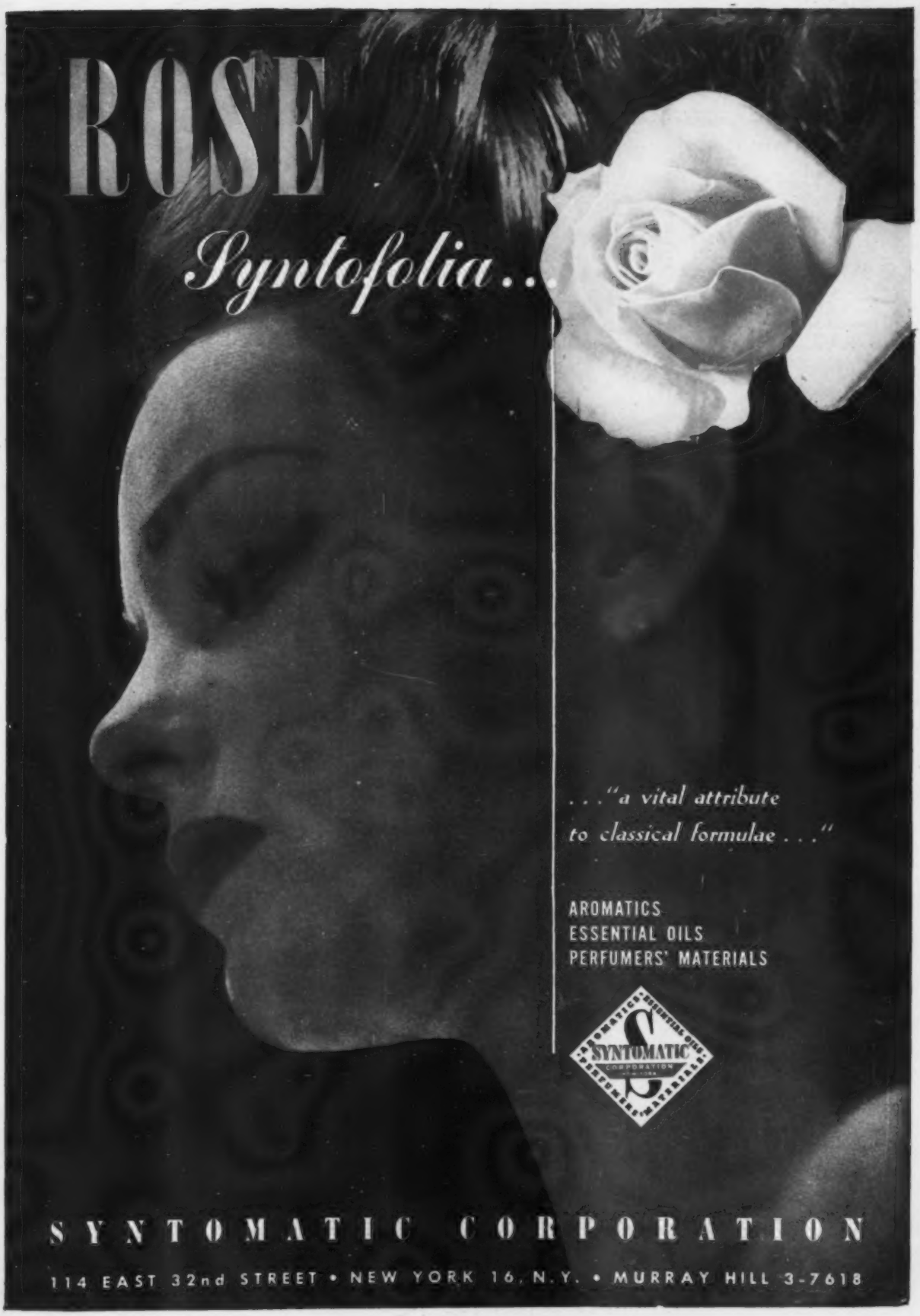
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In two forms: thin white flakes or white powder;
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N/10 alkali or acid per 2 gram sample, 0.2 cc. max.;
pH (10% water solution) 6.8 — 10.4;
Loss on drying at 110°C., 0.50% max.;
Assay, 99.0% min.;
Chlorides (as NaCl), 0.05% max.;
Organic chlorine, none;
Sulfates (as Na_2SO_4), 0.05% max.;
Nitro compounds, none.

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Prior to this research, magnesium had been confused with other metals. The alchemists mentioned "magnesia" but the name seems to have been a very elastic one with them. In Pomet's "History of Drugs," published in 1712, "magnesia" meant manganese. It was not until the studies of Davy and Bussy in the nineteenth century that magnesium was clearly defined as a separate element.

Magnesium burns brilliantly when heated in air or oxygen, or even in carbon dioxide, emitting a brilliant white light. This light is rich in ultra-violet rays and consequently is highly useful in photography.

For more than three-quarters of a century, MALLINCKRODT has specialized in the development and production of magnesium compounds to be used in medicine and industry. For magnesium products of dependable uniformity and purity, specify MALLINCKRODT Magnesium Acetate, Bromide, Chloride, Carbonate, Hydroxide, Phosphate, Stearate, Sulfate, Trisilicate, etc.

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KEEPING POSTED

The Fight on Malaria

THE famous insecticide, DDT, was recently commented on by two Swiss chemists who discovered the insecticide for Giegy. The product could save between one and three million lives lost through malaria each year, they claim, and it might even rid the earth of all insect-transmitted diseases. It is truly interesting to see the attention that is now being given to treatment, cure, and prevention of malaria. This is claimed to be the worst world scourge of any disease and prior to the Japanese attack upon us, treatment was merely of the suppressive type and this treatment was almost completely obtained through the use of quinine and other cinchona alkaloids. With quinine from Java cut off by Japanese occupation of that island, the United Nations had to rely mainly on atabrine or quinicrine a synthetic drug of German origin. A large stockpile of quinine was on hand, but evidently that was being carefully reserved for those patients who could not tolerate atabrine. Now fairly large quantities of this stockpile are being released for civilian use. However, intense research is being conducted with the aim of discovering a synthetic drug that will completely eliminate malaria from the sufferer and have him subject to relapses. A while back there was a report that a sulfa drug of this nature had been discovered, but as yet it has not made its appearance on the market. If such a drug is discovered and if DDT or some similar insecticide is widely used throughout the world, malaria might be a thing of the past.

Doctors Will Still Be Short

THE shortage of doctors in this country did not end with the war and will not end for many years after demobilization has taken place. This is because this country probably will need permanently about 30,000 doctors more than we had before the war. This additional requirement of medical practitioners, according to Council on Medical Education and Hospitals of the AMA, consists of about 15,000 doctors for Veterans Administration, 5,000 for our increased peacetime Navy, and 10,000 for our increased peacetime Army plus possibly a compulsory universal military training program. This estimate does not include extra physicians required to replace casualties among medical officers, medical assistance to liberated countries, and the more complete and extensive medical care demanded in this country.

Where these extra doctors are to come from, no one knows, for the report states:

"Even if admissions, enrolments, and graduations from our medical schools should continue at present levels, only about half of this need would be met since 40,000 students enrolling would receive the M.D. degree in the period 1942 to 1948 and 24,000 doctors will have died during that time. Thus under the most favorable conditions only about 16,000 additional physicians will be available after the war to do the work of 30,000.

"From now until 1947, medical school freshmen must be women, or men who were physically disqualified, under or over the draft ages or veterans. Because people in these categories are limited in numbers, those admitted to our medical schools in the next year or two will be appreciably reduced in numbers or in quality."

All of which apparently means that the doctors are going to be terribly rushed for some years to come, a thing that will make matters still worse by increasing the number of deaths among doctors. It also means that the doctors are still going to have very little time for the visits of detail men, and for other things that might keep them abreast of the newer drugs and methods of the profession.

Menthol Eases Up Quickly

WITH the war over ever so many raw materials are being released from restrictions, and others that were very tight and high in price because the main producing centers had been cut off are becoming freely available and are dropping in price. A typical example of this latter type of product is menthol. Menthol was never considered a strategic raw material from the point of view of the war effort. Its use in official prepara-

tions is minor, the most important uses being in proprietary medicines, shaving creams, and cigarettes. Prior to Pearl Harbor, Japan and China were our sources of supply for natural menthol, while our source of synthetic menthol was citronella oil from Java which island shortly fell to Japan. Brazil went to work and planted Jap mint and produced menthol. Although extremely high, users in this country were able to get reasonable supplies of the product that was so important to them if not directly to the war effort. But now that the war is over and Chinese and Japanese menthol will again be available for supplying world requirements, the market is greatly overproduced and prices have tumbled. In additions to these primary sources of natural menthol being opened, Java is again open to world trade and citronella oil for production of synthetic menthol will again be available. In addition to this method of producing synthetic menthol from meta-cresol was discovered during the war and this type of menthol was made official in the U.S.P. However, the hitch came from the fact that meta-cresol was a strategic raw material and could be used for menthol production. With the war over, meta-cresol will again be available and we will have still another source of menthol. All of which seems to indicate that there is likely to be some excitement in the menthol market before it becomes settled, if it ever does.

Army Nurses Can Be Cosmeticians

BOTH men and women of the Army Nurse Corps in France are to have an opportunity to become cosmeticians. A course covering every aspect of beauty shop operations, arranged by the Training Within Civilian Agencies Section, started in Paris August 13. The course, held at Ecols Jandeau, continues through October 6 during which time the students will learn haircutting, waving, dyeing, styling, permanent waving, facials, and manicuring. All who complete the course receive diplomas qualifying them as hairdressers.

The Post-War World Is Here!

NOW that the postwar world has arrived—albeit somewhat suddenly—reconversion of those industries which have to reconvert is taking place with all possible speed. But now that peace has come, conditions appear very muddled. While the war was being fought, the people of the nation knew that they had only one objective and that was to produce to the greatest extent for the war effort and to deprive themselves of anything that was essential to the prosecution of the war effort. Neither did it make any difference to the people of this country how much money was spent to win the war or who got the things with which to fight the war.

But now all is different. Economic problems are now most important. Full employment and good business is what we must have. We must start to cut our debt and at the same time cut our taxes. We must keep wages where they were during the war but we do not require overtime employment. We must keep our tariffs to protect employment at home, but we must lower tariffs so that we can buy from foreign countries and allow them to recover some sort of prosperity and not wind up in communism or revolution. We must loan money to foreign countries so that they can buy from us the things needed for rehabilitation, but the only way that we can be paid back is to import from those countries in equal values the things they have to sell us. We must keep prices down but we must keep our national income close to where it was during the war so that our national debt will not be bigger than we can safely handle. We must take care of the large number of unemployed during reconversion and of the large number returning from the Armed Forces, but we must no longer have deficit financing.

These are only a few aspects of the problems that lie before us seeking answers that no one seems qualified to give. The General Motors Company states that it has learned so much about increasing the production per man during the war that they can increase wages 30 per cent and still sell their cars at the same prices. This means that they can drop their work week from 48 to 40 hours and still pay the same amount per week. If many industries have learned to speed production up to this extent, where is full employment to come from? We don't know the answers either, but we anticipate compromises after much political bickering.

Sugar and Alcohol

NO FREE supplies of sugar are anticipated for almost a year ahead. Until the time when producing areas of the world can harvest their crops and ship the sugar to this country and other parts of the world sugar will remain in insufficient supply. A year from now it appears certain that the sugar shortage will end for good. The sugar shortage is naturally tied in with the demand for alcohol since one of the most important raw materials for the production of alcohol is molasses. Alcohol is now in more plentiful supply but it is still made from grain in very large part because there is not sufficient supplies of molasses. The War Food Administration is still in control of the allocation of raw materials for the production of alcohol and they do not favor subsidizing distilleries who were making alcohol from grain for war purposes. Sooner or later alcohol will be made from the raw materials used before the war and all alcohol of the same grade will be sold at the same market price. During the war price ceilings for alcohol have depended upon the costs as determined by the raw material used.

Foreign Trade Prospects

A SIXFOLD increase in drug sales abroad is revealed by T. W. Delahanty, chief of the Drugs and Pharmaceuticals Unit, Bureau of Foreign and Domestic Commerce, Mr. Delahanty stating that while "American drug sales abroad will in all likelihood continue at this tempo for the next few years, the question arises as to *normal* post-war prospects." Mr. Delahanty is extremely optimistic about post-war prospects stating that in November, 1943, a volume of $33,000,000 was estimated for that year, with an increase to $60,000,000 taken a reasonable assumption. However "in light of more recent information . . . . it is the Bureau's present conviction that a $100,000,000 export outlet for drugs and pharmaceuticals in post-war years should not be looked upon as too high a goal." Such a volume would equal the total

domestic sales of drug manufacturers during prewar years in that area of the United States exclusive of New England, the Middle Atlantic and Central States, according to Mr. Delahanty. The volume of exports under war conditions in 1944 totaled $106,000,000 in 110 countries, while up to six years ago, exports totaled only $17,000,000, equivalent to 5 per cent of production.

Lend-lease was a potent factor in 1944 export volume totaling $43,000,000, but more than 90 per cent of this total went to United Kingdom, Soviet Union, India, Australia, New Zealand, and China. Mr. Delahanty states: "Disregarding lend-lease, it should still be amazing to those unfamiliar with foreign possibilities that cash sales of drug products approximated $63,300,000. Latin American countries received $43,500,000 worth of United States drugs, or over *six times* their prewar purchases.

Tightest Things Are Now Easiest

THE chemicals and raw materials that were the most difficult to obtain for civilian use during the war are the ones that are now available in largest supply. This is for the reason that those things most badly needed for the war and most stringently restricted for civilian use, were production on which production had been pushed to a point far beyond normal civilian needs. Think of a product whose normal production was 35,000 pounds per year being pushed to one million pounds a month for war use and being greatly restricted as to civilian use and who get some idea what we are driving at.

Amino Acids, the FDA, and the AMA

AMINO acids are naturally of great interest to enforcement officials of the Food and Drug Administration who are charged with the supervision of the purity, labeling, and other phases of these important substances. E. M. Nelson, chief of the Vitamin Division of the FDA does not think very much of their use in foods or as food supplements for ordinary individuals, for he says: "There is no evidence that amino acids added to foods will accomplish anything that cannot be accomplished by proper use of proteins as they occur naturally in our foods. Any need for adding amino acids to foods may, therefore, be viewed in the light of adequacy of protein intake. The most common recommendation for protein intake is one gram a day for each kilogram of body weight, or 70 grams for the average adult male. This figure is intended to provide a factor of safety of approximately 50 per cent in excess of the average minimum requirement of a person living on an ordinary mixed diet. Studies made by the Committee on Proteins of the National Research Council during the past two years have shown that more than half of this is from animal sources such as meat, fish, milk and eggs. Obviously one must look for very restricted diets if one expects to find persons on inadequate protein intakes. I do not believe there have been any reports which indicate that any particular segment of the population of this country needs supplementation with one or more amino acids."

With reference to the pharmaceutical use of amino acids, Mr. Nelson rather narrowly restricts the field of use, stating as follows:

"The demonstrated value of amino acid preparations is at present largely limited to use for individuals who for various reasons are incapable of either consuming or digesting proteins present in ordinary food. The protein requirement of such individuals or a part of their requirement can be supplied temporarily by intravenous or oral administration of amino acid preparations. Evidence of the need for oral administration of amino acids is still very limited. Protein requirements can be met by the use of synthetic amino acids or protein hydrolysates, or by a combination of the two."

The American Medical Association also relegates amino acids to a position of rather minor volume, if not of minor importance, for the Council on Foods and Nutrition of the AMA, through its secretary, George K. Anderson, states as follows:

"It is said that amino acids may come to take the place of vitamins in popularity and sales appeal. I question this because the amino acids appear to be substances whose use is restricted to the direction of a physician. Such products seem to me to be quite removed from the general food industry. There is a place for this special type of food mentioned which may be considered half way between a drug and a food. Further, there seems to be very little appeal that can be made properly to the public for the use of amino acids since no generally recognized symptoms of lack have been enumerated. On what basis would a food containing primarily amono acids be sold to the public with our present state of knowledge?"

And the Council on Pharmacy and Chemistry of the AMA, through its secretary Austin E. Smith, makes the following comment:

"Amino acids are considered by the Council on Pharmacy and Chemistry only if they are submitted in pure or reasonably pure form with the view to striking specifically at a given disease or symptom, in much the same way that pure vitamins or other pure substances that properly fall in the drug class are considered. For this reason the Council on Pharmacy and Chemistry would consider hydrolysates such as Amigen, Parenamine, etc., but not Aminoids or Nutramigen, the latter two being considered by the Council on Foods and Nutrition."

All of which gives the present conditions under which manufacturers of amino acid preparations now have to work. What the future holds for these products might be something else again, for these opinions are only based on "our present state of knowledge," and further research might uncover startling benefits to be derived from these substances such as was the case with vitamins. Remember when the only vitamins anyone talked about were A and D in cod liver oil? Remember that the only use for vitamins was for children to prevent rickets and promote growth?

Patents and Drugs

GOVERNMENT officials are now suggesting that patents on drugs, appliances, and processes vital to the public health be opened for general use. The House Labor Subcommittee on Aid to the Physically Handicapped, headed by Representative Augustine B. Kelly, a democrat of Pennsylvania, is backing the idea. The subcommittee has developed evidence that many necessary health products are covered by patents, and that some of the holders of the patents have been charged with using them to maintain artificially high prices. Therefore, committee members seek means to

break such monopolies. Supporting the committee members in this effort is William H. Davis, War Mobilization Director and chairman of the Patent Study Committee appointed by Secretary of Commerce Wallace. Mr. Davis suggests that patents be opened to all producers, with compensation, probably in the form of royalties fixed by the Government. In other words, he wants compulsory licensing of patents.

Still a Bigger Magnate

JUST to keep our friends abreast of the doings of John Lawrence Smith, president of Chas. Pfizer & Co., referred to previously in these pages as "one of Brooklyn's outstanding patriots" (D.C.I. Feb. '45, pg. 163), we now report that he has recently become a much larger baseball magnate that he was before. It seems that Branch Rickey, president of the Dodgers, John and two other fellows formerly owned only a quarter interest in the Brooklyn Baseball Club. But now Rickey, John, and only one other fellow have bought fifty per cent more of the Dodgers stock and have bought out the fourth fellow's interest in the original quarter which they owned. This gives John, Rickey, and the other fellow three-quarters ownership. Previously we told of John's great love of Brooklyn and his great ideas of Brooklyn's place in the post-war world, ascribing to these John's desire for ownership in the Dodgers. But recently our hero shocked us by attributing this new venture to a selfish motive. Said John: "If you're only in one thing like the chemical business or anything else, you get in a rut, and I don't want to get in a rut."

FDA and Glandular Products

IN LINE with its predicted action against botanical drugs which it considers worthless in effect in the conditions for which they are recommended, the Food and Drug Administration is also looking carefully over glandular preparations on the market from the same point of view. The FDA recently advised a manufacturer that while "the value of some glandular preparations has not been established, neither has it been shown that they are entirely devoid of value." However, the FDA advises that "if these preparations have any efficacy their therapeutic results can be obtained only when they are used by or under the directions of a physician." The statement is further made that "if further scientific evidence demonstrates conclusively that the products of this class are therapeutically useless, the Administration will have no alternative but to regard them as misbranded because, among other things, the labeling cannot bear adequate directions for use."

French Perfumes Scarce

A CONTINUING scarcity of French perfumes and perfume materials, which scarcity has already been pointed out, is confirmed by Charles S. Gage, vice-president of Lentheric, who recently returned from a four-week inspection trip to France accompanied by Kurt Loesch, also a Lentheric vice-president. Mr. Gage says that sizable supplies of perfumes will not be available before next Spring and bases his prediction on the following factors: general economic conditions in France; shortage of coal which has cut distillation of oils and production of bottles and other needed materials; scarcity of flowers, fats, and solvents for extraction. All available coal in France, says Mr. Gage, will be needed to keep the people warm this Winter, so the perfume and other luxury industries will have to wait until Spring before it will be possible to get enough for power and other production purposes.

With reference to England, Mr. Gage said that revival of the industry there will probably be extremely slow due to severe government restrictions which are expected to continue on importation and sale of luxury goods. "The severity of government restrictions virtually eliminated the perfume business in England during the war," he said, "compelling women to do without, whereas American women have been more fortunate."

FDA and Botanicals

NOW being for the most part relieved of the additional work of checking extremely large quantities of supplies for the Armed Forces, the Food and Drug Administration is about to become more active regarding the products of drugs manufacturers for civilian use. One indication is that enforcement officials are believed ready to start proceedings against manufacturers of certain types of preparations that include botanical drugs as active ingredients, some of which botanicals enforcement believe to be worthless in effect. Some time ago such a course was predicted and it was suggested that manufacturers earnestly conduct research to support the claims made for these active ingredients. For the manufacturers who have not taken this step, it might be too late.

Cosmetics in the War

SAILORS on our fighting ships used cold cream and marines on sun-scorched Pacific islands carried lipsticks, according to Rear Adm. Harold W. Smith, chief of the research division in the Navy's Bureau of Medicine and Surgery. The cream was far from the ordinary product found on the market, being the specially developed product for protection against flash burns from large guns which our men risked when they went into action stripped to the waist. The development of this cream is described on another page of this issue by Charles S. Glickman. Neither was the lipstick comparable to the ones used by the women at home, being a most unglamorous gray-brown. However, this lipstick was an effective preventive of the painful sunburn that afflicts men's mouths and noses where the sun pours on an excess of hot ultraviolet rays. These were two outstanding cosmetic products which performed a most useful service in winning the war.

Vitamin Imbalance

RESEARCH into the use of vitamins is uncovering a condition of vitamin imbalance that occurs when large doses of a single vitamin are taken. According to the Journal of the AMA: "Early attempts to produce a deficiency of one of the B vitamins by overdosing with other members of the complex have not met with much success. Recently Richards has demonstrated that overloading the diets of rats on a diet in low B6, pyridoxine, with large amounts of thiamine caused vitamin imbalance, with the consequent production of

symptoms of or pyridoxine deficiency—seizures of epileptiform nature which made its diagnosis relatively simple." Here we have results of investigations that will probably cause more people to use the B complex or multiple vitamin capsules than those of a single vitamin. Also this research should allow producers of multiple or vitamin B complex vitamin B6, pyridoxine, to drop the now required statement to the effect that no benefit is known to be derived from its inclusion in the capsule.

Penicillin Competition Sharper

PENICILLIN really is becoming competitive from what we hear. Prices of those who do not manufacture but who distribute as first hands are lower than they pay for the drug. The last we heard was something like 47½ cents per 100,000 units against a cost price of 54 cents. Naturally there is no way of telling the cost of manufacturers who distribute direct. But it seems that the price of this important drug is getting down where it can be widely used and do the most good for the most people. Needless to say, distributors might suffer financially, but many people will not suffer healthwise. The enormous production of penicillin now available in this country must find use, or certain distributors or manufacturers must be eliminated or curtailed in the volume sold.

Streptomycin Next

WITH penicillin now in more than adequate supply interest is rising in other antibiotics, particularly streptomycin. Merck has announced its intention of investing $3,500,000 in a plant to produce this new drug. Three buildings, including several large fermenters and with 60,000 square feet of floor space are to be constructed at the Merck Stonewall plant at Elkton, Va., and a drying and packaging plant with 30,000 square feet of floor space is to be erected at Rahway, N. J. Great promise is held out for this drug in the treatment of diseases which the sulfa drugs and penicillin do not cure, notably diseases of the gram-negative bacteria. The drug has been supplied to military and other doctors for some months from pilot plant operation for experimental purposes. According to reports of doctors working with the drug in the Army and other places it is the best treatment for tularemia. It has been proven highly effective against influenzal meningitis, infections due to the salmonella group, and cystitis caused predominantly by the gram-negative organisms. Experiments have led to the hope that it will be useful in undalant fever and even possibly tuberculosis.

The fact that any company can decide immediately to erect a plant for a product of this type and can estimate the cost of such a plant is due to the fact that all the experimentation in the production of drugs from molds was worked out in the production of penicillin. Those who struggled through the penicillin production problem had no idea how such production was going to be accomplished or what the production facilities were going to cost. It was only after long hard work of trial and error and repeated appropriations of additional sums of money that the problem was solved. Now the facts regarding production of drugs of this type are quite well known in advance and the plants can be placed on a drafting board and the cost accurately estimated in advance.

A Valuable Book

A BOOK that should be of great value to practically any drug manufacturer has been published by the Bureau of Foreign and Domestic Commerce of the Department of Commerce and can be obtained from the U. S. Government Printing Office for the nominal sum of 50 cents. The title of the book is "Medicinal Products—United States Equivalents and Alternatives." The book is designed for the use of those in this country who have business with the Latin-American countries, or for the use of those in the Latin-American countries who are attempting to do business in drugs with suppliers in this country. The book gives a complete list both in Spanish and Portugese of the drugs that are used in the Latin-American countries together with the composition or generic term of the products in English, and the United States equivalents or alternatives. Also given are the names of the United States suppliers.

OSRD and the Post-war Period

THE Office of Scientific Research and Development, and Dr. Vannevar Bush, its director, are appearing in the public print in an increasing amount, and it appears that we shall hear considerable more of OSRD and Dr. Bush in the post-war period. The plan is to keep intact the OSRD as an aid to manufacturers and to the country in general in research. The OSRD, which was created as a research project to aid in the war effort, has accomplished so much that the Federal Government seems loath to let it die. A future is seen in the OSRD to keep us on a par with other nations of the world (particularly Germany) in having constant research backed by federal funds which will keep us abreast, and it is hoped in advance, of other nations in the development of all manner of things that will be helpful in times of peace as well as times of war.

Dr. Bush has submitted to the White House a report entitled "Science—The Endless Frontier." In this report he recommends that Congress establish a National Research Foundation for the purpose of promoting a national policy for scientific research and scientific education. He suggests that the Foundation have the five following divisions: Medical Research, Natural Sciences, National Defense, Scientific Personnel and Education, and Publications and Scientific Collaboration.

Dr. Bush indicates that there are serious defects in the training of scientific personnel in this country, and under the head of "Medical Research" makes the following statements:

"The Government should help industry in its research projects by clarifying present uncertainties in the Internal Revenue Code in regard to the deductability of research and development expenditures as current charges against net income, and by strengthening the patent system so as to prevent abuses which reflect discredit upon a basically sound system. In addition, ways should be found to cause the benefits of basic research to reach industries which do not now utilize new scientific knowledge."

Dr. Bush also discusses the war against disease in this country, and says that to maintain the progress in medicine that has marked the last 25 years, the Government should extend financial support to basic medical research in the medical schools and universities.

An Analysis of
Department Store Cosmetic Sales

THE N.R.D.G.A.'s annual report of Departmental Merchandising and Operating Results to the Controllers Congress, covering 1944 and edited this year by K. P. Mages, shows that department stores and specialty stores experienced another 14 percent rise in the sales of cosmetics. This is less than the 24 percent rise in 1943; but, coming on top of the already high sales volume of the preceding year, department and specialty store buyers feel that they have no reason to complain about the performance of their cosmetic counters. Since nation wide sales of cosmetics and toilet goods grew 13.7 per cent during 1944, according to DRUG & COSMETIC INDUSTRY the department and specialty stores got their share.

However, there is more than mere evidence of continued expansion, in the "Controllers' Report" to please the cosmetic industry and its customers. Talking in averages, stores made a better (12.5 per cent) profit on their toilet goods sales than during the year before and the operation cost of the counters declined. Mark-downs were slightly higher with 2.4 per cent over last year's 2.1 per cent, but remained substantially behind the 4.3 per cent of the total store and well below other typical fashion items. The sudden dropping off in the demand for some summer cosmetic items, and the return of a number of regular sellers to the counters, to the detriment of "stop-gap" merchandise, made itself noticed and required price adjustments.

The number of transactions rose another 10 per cent; not quite as fast as in 1943. Here, too, manufacturers will have to take into consideration that toilet goods demand has expanded rapidly over a number of years. The rate of growth must naturally become less marked as the top of the current curve approaches. War conditions, no doubt, exerted an effect upon the number of sales tickets written by the average counter.

When the nation is fully employed more shopping is done for others than during times of general leisure. Women did not shop only in 1944, for the members of their family, but for friends as well. The gasoline shortage and restrictions upon travel are mentioned as contributory reasons.

Shopping for friends and second and third parties certainly helped to raise the size of the average sales ticket. Yet, to all appearance, it cannot be entirely responsible for the general rise of gross sale averages which was experienced by toilet goods counters all over the nation. Customers bought more and they bought better. Average gross sales, which had amounted

to $1.57 in fall 1943, rose to $1.71 in 1944. More significant still is the rather exceptional increase in the sales volume per square foot of toilet goods sales space amounting to $133 only in 1943, growing to $153 by 1944.

Because of the comparatively few changes that took place during the year in the relative importance of the various departments of the stores, the contribution of the toilet goods counters to total store sales remained approximately the same; 3.3 per cent in 1943, rising to 3.4 per cent in 1944.

While it is, of course, impossible to make a reliable analysis from a report covering a wide range of stores about the probable distribution of toilet goods sales in cities of differing size, some conclusions, nevertheless, can be drawn on this subject by a comparison of the operation results of stores of different volume. The theory can be accepted that the smaller volume store generally can be found in a smaller city; while at the other hand, all large stores can definitely exist only in the largest population centers.

Making allowance for the above reservation, the figures applying to stores with an annual sales volume of below $2,000,000 and the two top store groups with a volume of $5,000,000 to $10,000,000 plus those doing $10,000,000 and more will be of interest to many cosmetic manufacturers.

Stores in the smaller population cities had lesser need in 1944 for mark-downs than those in the larger ones. The reason, probably, was that they are dealing with a less sensitive-to-change customer who continued to absorb items which had become unseasonal in the bigger cities. Summer demand continues in the small towns when it has ended in the metropolitan centres, to quote an example.

Sales continued to grow at a faster rate in the smaller cities than in the large ones. While the demand for toilet goods grew at an average of 26 per cent for the two top ranking groups of stores in 1943, that of the smaller cities had grown only 22 per cent. In 1944 this trend was completely reversed. Toilet goods sales of the $1,000,000 to $2,000,000 stores rose at the rate of 19 per cent; those of the $5,000,000 to $10,000,000 store groups averaged a 13 per cent rise and the above $10,000,000 volume stores just managed an additional 11 per cent. As to the number of transactions the smaller stores reported a 10 per cent increase for 1944 against an 8 per cent and 10 per cent rise for the two top groups of establishments.

Whether cosmetic manufacturers should read into these figures justification of the occasionally heard demand of their salesmen to give added sales support to the small city stores, on the theory that they offer the best chance for future expansion, or whether it will make them give an even stronger boost to their

(*Continued on page 415*)

PERFORMANCE ANALYSIS OF COSMETIC DEPARTMENT IN DEPARTMENT STORES—1944

Typical Figures

	Year	General Average All Stores	Department Stores With Annual Volume from $500,000 to $1,000,000	$1,000,000 to $2,000,000	$2,000,000 to $5,000,000	$5,000,000 to $10,000,000	Above $10,000,000	Specialty Stores with Annual Sales Over $500,000
Mark-on	1944	38.6%	38.4%	38.7%	38.5%	38.6%	38.3%	39.4%
	1943	*38.3%*	*38.0%*	*38.3%*	*38.3%*	*38.1%*	*38.8%*	*39.6%*
Mark-down	1944	2.4%	2.4%	2.0%	2.3%	2.2%	2.9%	2.3%
	1943	*2.1%*	*1.6%*	*2.0%*	*2.1%*	*2.2%*	*2.4%*	*1.9%*
Gross Margin % to Sales	1944	37.2%	37.2%	37.8%	37.1%	37.0%	36.4%	37.8%
	1943	*37.0%*	*37.4%*	*36.9%*	*37.3%*	*36.4%*	*36.1%*	*38.3%*
Sales % to Last Year	1944	114%	113%	119%	116%	113%	111%	117%
	1943	*124%*	*130%*	*128%*	*127%*	*131%*	*128%*	*129%*
Transactions % to last year	1944	110%		110%	113%	108%	110%	106%
	1943	*118%*		*113%*	*117%*	*121%*	*118%*	*126%*
Average: Gross Sale Spring	1944	$1.45		$1.30	$1.27	$1.63	$1.46	$1.92
	1943	*$1.38*		*$1.24*	*$1.23*	*$1.41*	*$1.40*	*$1.88*
Fall	1944	$1.71		$1.55	$1.56	$1.84	$1.76	$2.28
	1943	*$1.57*		*$1.41*	*$1.40*	*$1.61*	*$1.68*	*$2.05*
Sales per square foot	1944	$153		$108	$114	$156	$192	$185
	1943	*$133*		*$96*	*$101*	*$147*	*$166*	*$171*
Sales % to Total Store	1944	3.4%		3.3%	3.3%	3.6%	3.3%	3.7%
	1943	*3.3%*		*3.1%*	*3.2%*	*3.6%*	*3.4%*	*3.8%*
% to Sales: Administration	1944	6.6%						
	1943	*6.6%*						
Newspaper Cost	1944	1.6%	1.8%	1.8%	1.5%	1.7%	1.4%	2.5%
	1943	*1.8%*	*1.5%*	*1.6%*	*1.9%*	*1.8%*	*1.5%*	*3.0%*
Total publicity	1944	3.0%						
	1943	*3.3%*						
Buying	1944	3.3%						
	1943	*3.3%*						
Sales personnel	1944	4.2%	6.7%	4.9%	5.0%	3.5%	3.4%	6.1%
	1943	*4.3%*	*7.2%*	*5.2%*	*4.6%*	*3.6%*	*3.4%*	*4.9%*
Delivery	1944	0.7%						
	1943	*0.9%*						
Total Selling	1944	6.8%						
	1943	*6.8%*						
Total operation	1944	24.7%	25.0%	25.3%	24.4%	22.6%	25.0%	27.7%
	1943	*26.3%*	*26.4%*	*26.5%*	*24.5%*	*24.7%*	*25.9%*	*26.4%*
Profits	1944	12.5%	12.2%	12.5%	12.7%	14.4%	11.4%	10.1%
	1943	*11.7%*	*11.0%*	*11.6%*	*13.0%*	*11.7%*	*10.3%*	*11.9%*
Goal Figures (most favorable figures)								
Average Gross Sale: Spring	1944			$1.46	$1.58	$2.05	$1.71	$2.60
	1943			*$1.40*	*$1.56*	*$1.77*	*$1.77*	*$2.49*
Fall	1944			$1.70	$1.83	$2.25	$2.09	$2.95
	1943			*$1.65*	*$1.71*	*$1.99*	*$2.06*	*$2.79*
Sales per square foot	1944			$166	$218	$286	$286	$366
	1943			*$130*	*$199*	*$263*	*$253*	*$333*

(Figures are quoted from the annual Report to the Controllers' Congress by the National Retail Dry Goods Association)

WOUND HEALING

By WILLIAM T. DOYLE

Eighty to ninety per cent of the men injured in this war got first aid treatment within an hour. The ratio of killed in action to battle casualties is twice as great when compared to World War I, but the mortality rate among wounded is only one-half as many. This is attributed to the use of sulfonamides, plasma and prompt attention.[1]

War focuses attention on the study of factors which might influence wound healing. The literature is crowded with reports which most of us find difficult to keep up with. Yet there is much to be gained from such close study. The purpose of this review is to present findings which have been well substantiated and, in most cases, useful as an aid in keeping abreast of new developments in a very important field.

Whipple[2] has very ably clarified the concepts concerned with the management of contaminated wounds. He states that the local factors governing wound healing are: (a) amount of necrotic or devitalized tissue present; (b) amount and character of exudate in the wound spaces; (c) local blood supply; (d) number and virulence of infecting organisms; and (e) number and character of foreign bodies. He also takes cognizance of such systemic conditions as (a) age of tissues; (b) hydration of tissues; (c) normal tissue protein; (d) proper vitamin balance, especially of vitamin C; and (e) general circulation and blood picture which all influence the healing progress of a wound.

The gentle scrubbing of dirty wounds with soap and warm water seems to have gained renewed impetus during the war years. But even this time-tried procedure leaves much to be desired. Cooper, et al.[3] have pointed a finger in the right direction with their interesting work on digestants. They were looking for "a chemical solution possessing the capacity to disintegrate or loosen the eschar or devitalized tissue from the burned area." These investigators wisely directed their attention to reagents which were likely to affect collagen, a protein we all know as highly resistant to proteolysis, and the usual protein solvents. They obtained some promising results with a 2 per cent solution of papain, as the enzyme, plus cysteine hydrochloride 0.4 per cent as the activator. Sodium salicylate (8 per cent) was added for its penetrant and denaturant qualities. The authors concluded that "the results thus far obtained indicate that the papain-cysteine-salicylate solution exerts a powerful proteolytic action in vivo even when applied by the relatively crude medium of compresses wet with it."

More investigation will be necessary before enzymatic debridement can be used with certain safety and confidence. Cooper and his group, however, have directed their attention in a field that is worthy of most careful study. It will be of real interest to follow this investigation to its completion. Those who are working in the field of factors influencing the healing of wounds might well add debridement with enzymes to their list of projects.

Of particular interest has been the introduction of the so-called surface active agents. The increased use of wetting agents and detergents by industry has led to the very rapid commercial development of these compounds.

Taub[4] describes a surface active agent as "any substance which decreases or otherwise modifies the interfacial tension, viz., the tension at the boundary surface, between two phases of matter, i.e., liquid-solid, liquid-liquid, or liquid-gas, is a surface active agent. The tension between the latter two phases has the special name of surface tension."

Petroff and Schain[5] have explained that the bacterial cell is enclosed by a semi-permeable membrane which is easily susceptible to external changes. Apparently substances which reduce the surface tension (such as surface active agents) become concentrated on the bacterial surface, thus affecting membrane permeability while at the same time increasing diffusibility through the cell. It has been postulated that if surface tension balance can be modified perhaps the cell can be more readily penetrated, thus inactivating the power of reproduction and finally destroying it.

Gershenfeld, et al.[6] have made a notable contribution to the subject of the antiseptic properties of surface active agents. They reviewed the literature and conducted some very excellent studies of their own. From their investigation, they concluded that: (1) Reduced surface tension alone does not fully explain the bactericidal action of these compounds. (2) The bactericidal action is more probably due to a combination of three factors: 1—the surface active material—anionic or cationic; 2—the hydrogen-ion concentration of the environment—acid or alkaline; 3—the specific organisms or group of organisms—as Gram-positive or Gram-negative.

Fisher[7] made an excellent study of the influence of wetting agents on various antiseptics. The author reported that cationic detergents are more active bactericidal agents than anionic wetting agents. From the standpoint of compatibility with standard antiseptics, the anionic detergents were found to be more generally useful.

The choice of a wetting agent to be added to the desired antiseptic would have to be determined largely on the basis of compatibility. In Fisher's experience, no single wetting agent can be depended upon to enhance the bactericidal activity of all types of antiseptics. As this investigator pointed out, "the ideal antiseptic is still to be found, but it is observed that these surface tension depressants offer great possibilities for increasing the activity of existing bactericidal agents."

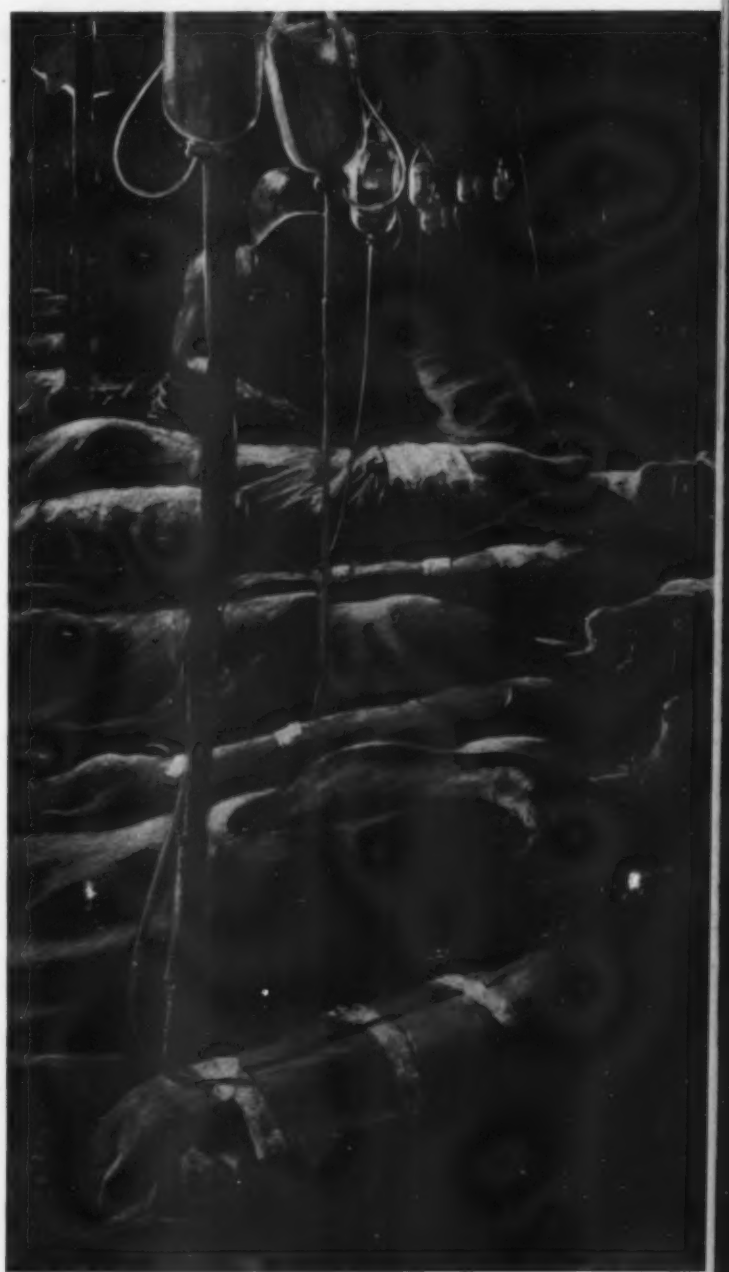
The careful studies of Walter[8] show that surface active agents have earned a real niche for themselves in surgery. This investigator working with benzyl-trialkonium chloride found that an aqueous solution for topical application possesses emulsifying, detergent, keratolytic and emollient properties. The detergent and keratolytic qualities are of special interest to the surgeon—especially in the cleansing of dirty wounds. Other advantages of these compounds are: (1) Kindness to tissue; (2) Low surface tension; (3) High bactericidal activity.

The sulfa drugs are without a doubt one of medical science's most important achievements. Even before the coming of World War II the sulfonamides had gained an enviable reputation. But with the beginning of hostilities this group of compounds catapulted into prominence. It is a well-known fact that infection is a killer of armies. It is of great importance, then, that the wounded be treated promptly and returned to battle as soon as possible. Wounds complicated by infection are real deterrents in the successful prosecution of war. The sulfonamides have in a large measure been responsible for the success the Allied forces have enjoyed in coping with wound infection.

Jeffrey[9] observed that combat wounds appeared cleaner following the use of a sulfonamide pack than was the case in those not so treated. At first, cultures from several of the patients showed a mixed heavy growth of streptococci, staphylococci, coliform bacteria and anaerobes, but after the use of the sulfonamide no

(Continued on page 406)

"Shock Tent" painted by Robert Benney for the Abbott Collection of Medical Department War Art.



The Drug Industry's

Despite Expanded Markets Here and Abroad Many New Producers will be Competing for Position

Now that the war has been won on all fronts and restrictions on all raw materials are in the process of being lifted, manufacturers in this industry will have full opportunity to put into effect their post-war plans about which so much has been heard during the years of armed conflict. The major problem before this industry and other industries, which have contributed heavily to production for the war effort, is how to sell the enormous production of which all are capable. Companies producing products for the Army, Navy, Lend-Lease, and other government needs during the war were not bound by restrictions on raw materials, packaging materials, or plant equipment. Because of the shortage of manpower and the greatly increased production demanded, manufacturers were allowed to obtain the latest equipment necessary to improve their plants so as to speed production. Now, with this equipment on hand, productive capacity in this industry is far above anything needed in this country. Also, since this modern equipment made possible far greater production per man than was possible before the war, the amount of manpower that these companies will need for peacetime production is far below the amount necessary for this same production prior to the war.

Therefore, the problem of the post-war world is purely one of selling. And for that reason the sales, merchandising, and advertising departments of the companies in this industry will assume their normal places, and the production departments will assume a similar position to that which they formerly occupied. It was interesting during the war to see production men and scientific men rise to heads of companies and occupy positions always formerly held by men who had come up through the sales department. True it is in this industry particularly, that scientific personnel and production personnel will always occupy a most important place. And particularly will this be true from now on since practically all of the drug manufacturers are undertaking enormous research programs and the future of the drug industry appears to lie in products that have not as yet come to light.

It is true that the volume of this industry may well rise to new heights within the years that lie just ahead. Most predictions for the cosmetic industry claim that much more cosmetics will be used not only because of the development of new types of products but also because of the greater number of people who used cosmetics during the war. These new users resulted mainly from the fact that the great majority of women were working and therefore had to look to their appearance and had the money with which to do so. Also there has been a tremendous expansion in men's lines of cosmetics and this business is expected to develop much further as more sales and merchandising efforts are put behind it.

With reference to the drug industry, larger volume than in prewar days is clearly indicated. The main factor here is that more and more diseases are constantly being cured almost miraculously through the use of newly discovered drugs. Whereas not so many years ago doctors had very little use for drugs to cure diseases, they are relying upon them almost completely. The period when doctors treated disease almost exclusively through the use of rest in bed, sunshine, diet, and a few other simple things and threw up their hands when a real infection set in, is a thing of the past. Now they look for a drug that is specific against any condition that they run up against. And the drug manufacturers are constantly supplying more and more of just the drugs that the doctors are looking for.

It is pointed out that not all of the drugs supplied to the Armed Forces would have been bought only if there were a war. After all there were upwards of 12,000,000 men of this nation in the Armed Forces and this is a considerable part of the population of this country. Under normal conditions this portion of our population would use a considerable amount of drugs even if they were in civilian life. Naturally the use of drugs for these men and women would not be as great in civilian life, nor would such enormous supplies be required at so

Post-War Program

many places all over the world. Also the supplies sent to our allies under Lend-Lease can be pretty well be deducted in post-war business although considerable export volume is expected to develop very shortly to all parts of the world. This export business is anticipated for the reason that the principal countries of the world who had large shares of this business prior to the war are in no position to produce and it cannot be anticipated just when they will be in a position to produce.

Another thing that should aid this country in an expanded export business during the period that lies ahead is the fact that our goods have been finding their way into a great many countries either through Lend-Lease or other channels during the period when other goods could not be obtained. And it is certain that our goods for the most part are as good or better than those of other countries. And with our greatly increased efficiency in production, prices of our goods should be more able to meet the competition of other countries in world trade.

One difficulty which drug and cosmetic manufacturers alike face is the greatly increased number of manufacturers which have entered the industry as the result of the enormous production that was demanded during the war years. In the drug field penicillin is an outstanding example of this condition. Manufacturers who were not in any way related to the drug industry entered the manufacture of penicillin for the sole reason that they knew something about fermentation. And because all information was pooled to a great extent to further the war effort, they eventually became large producers of the drug which they sold to the government. Now these manufacturers feel that they should be able to sell this production through regular drug channels although the regular pharmaceutical manufacturers probably have nore than sufficient production to supply the normal demand. Then there were proprietary drug manufacturing houses who for one reason wanted to enter the manufacture of penicillin or K Ration or what not so that they would be serving the government during the war but who would also be trying to get a foot in the door of the pharmaceutical business at government expense. Now these manufacturers are going to try to maintain a position in the field and are going to try to sell their output through the regular drug channels to doctors, hospitals, and patients against those pharmaceutical manufacturers who have been firmly entrenched in this field over a long period of years. And to overcome the faith of the patient, doctor, hospital, and other users in these old line companies, prices are being cut to the point that the goods are being sold sharply below cost in many instances. The only answer to a situation of this kind so long as the market is overproduced is the elimination of those whose cost of manufacture and distribution are too high. Certainly if competition in penicillin is now excessively sharp, which seems to be the case, it must become sharper as those who have been selling only the government try to place their production. If these manufacturers cannot place their production direct to the druggists, doctors, and hospitals, they must try to place it with pharmaceutical manufacturers who now make their own product or buy from other makers. Thus we might see price competition in selling to pharmaceutical manufacturers. Penicillin only serves as an example of the many products in the drug industry which have overproduced for war purposes. There are many other examples.

Likewise in the cosmetic branch of the industry, a number of new manufacturers have entered the field because of the greatly expanded demand for perfumes, lotions, and other cosmetics. Naturally these new producers, who have become well established during the war years, are going to try and maintain their places in the industry. Many cosmetic manufacturers have established themselves through production of goods for the Armed Forces and for the Post Exchanges. Many others have entered the production of K Ration, and one outstanding manufacturer swtiched to the manufacture of parts for radios. Certainly the cosmetic manufacturer who switched to the manufacture of radio parts should not expect to become an important factor in the radio business, probably doing this work because of patriotism, but one can never tell. Perhaps he will view the radio business with longing eyes and attempt to follow through. But the cosmetic manufacturers who entered the field during the war and those who expanded to undreamed of heights during the war cannot sanely expect to hold their positions in the industry now that the war is over and the long established manufacturers can get all the supplies and all the manpower that they require.

Flash Burn Preventive Cream

By CHARLES S. GLICKMAN, Industrial Chemical Consultant

IT HAS been stated that war creates as well as destroys. The recent conflict has been directly responsible for the rapid development of many new and interesting processes and products. Some years ago, the writer was engaged in the study and development of protective compounds of cosmetic type. During the course of this research work, there arose the problem of creating a preparation which would negate or at least diminish the effect of flash exposures of relatively high temperature on the human skin.

This in substance was the general problem. There were, however, additional "strings" attached to it. The latter entailed the creation of a composition; non-greasy, rapid drying, non-toxic, and capable of complete yet simple removal by soap and water. A further condition hinged on the requirement that the cream be resistant to the solubilizing effects of either perspiration and/or fresh or salt water as well. Furthermore, the compound had to be not unduly uncomfortable to the user, yet allow the normal excretory processes of the skin to proceed without interruption or other impairment. In brief, it amounted to the creation of a continuous yet permeable film of marked heat insulating properties; a film easily and rapidly removed when desired without irritation or injury to the underlying skin.

The need for such a preparation became imperative in the light of the injuries sustained by gunners and loaders of large calibre or rapid firing marine ordnance; launchers of rocket projectiles such as bazookas or men on the field using flame throwers. An additional need arose from the emergency created when the crews of tanks or other enclosed armored vehicles had to evacuate their machines within a matter of but a few seconds following enemy hits or else be subject to severe burns from exploding gasoline or ammunition. There never was any doubt that an imperative need for such a product existed.

The approach to the successful solution of the problem had to be of necessity an unorthodox one and the absence of any published data which might serve as a guide enabled the writer to approach the problem with an open mind free from any conditioning such as might arise from the records of another's work. Quite fortunately however, a preceding problem required the preparation of a cream which would serve as a skin film protectant against the effects of explosives such as Tetryl and T.N.T. The product created for this purpose which met all requirements was based upon the use of a drying oil and ester plasticized shellac in alcohol vehicle. To this was added pigments and chemical neutralizers resulting in a fast-drying film of proper performance.

In the case of the burn preventive cream, there was a very serious obstacle to overcome. This was the determination of the proper performance factor. How would the research chemist know when he had a good product? How could he during the course of his work evaluate the effects of one composition against another from the standpoint of insulation efficiency? These problems in turn gave rise to the further and immediate requirement of simultaneously developing with the product a means of evaluating the results. The means whereby this was achieved will be described. All would have progressed with far less difficulty and confusion had "suggestions" not been forthcoming from the "experts." It was quite evident at a glance to determine the extent of their collective knowledge (as far as a preparation of this type was concerned) and the source of their technical advice. One suggestion concerned the use of a strong tincture of benzoin. There was a need for a resinous base vehicle; ergo, benzoin was a resin and it was in the U.S.P., therefore it was the proper base. There was a need for a refractory pigment. The Chemistry and Physics Handbook listed emery (alumdum) as such and it therefore followed that in powdered form it might serve to advantage. It seems that the geniuses overlooked the fact that the product was to be used on the skin in the form of a *defensive* preparation. Had it been required in an *offensive* preparation, literally and figuratively, it might have appeared logical. It was indeed unfortunate that these savants were not required to test their own recommendations on their own backs else they would have exercised some measure of reserve in keeping with their comments. Somehow entangled irretrievably in the entire project was a "retired ketchup maker." Quite literally, some weird happenings did take place during the early stages of the development work.

After some thirty-seven basic experiments each of which was liberally supplemented by additional variations, a product was created which met the requirements. A wide variety of pigments and bases were investigated and evaluated. These preliminary studies

EUROPEAN

covered the utilization of such a variety of components as iron oxides, chrome oxides, zinc oxide, titanium dioxide, metallic soaps, low boiling solvents, wetting agents, water soluble and oil soluble emulsions and suspensions, salicylates, alum, mica, powdered and flake metals, resins, magnesium base pigments, mosses and alginates, perborates, bicarbonates and finally drying oils and plasticizers. To this multitude of compounds must be added the fact that preliminary investigations were conducted in beakers using a stirring rod as a means of creating uniform suspensions of pigments in the vehicle. Finally a jacketed heavy duty laboratory size paste mixer and a small iron mill were made available. The finished formula which was designated "M2MSBG37T" in deference to the then current trend of multitudinous committees, bureaus and departments (each with their respective offspring) had the following composition:

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HIGH BLOOD PRESSURE

By M. A. LESSER

IT CAN be said that the frequency of high blood pressure is the price we Americans pay for our tempo of living. In China, for example, where life procedes at a more leisurely pace, at least until recently, the incidence of high blood pressure or hypertension is quite low. As remarked by Dorfman[1], the American "vices" of efficiency, punctuality and desire for success may well account for the statistical difference in the occurrence of hypertension in China and in our own country.

High blood pressure is a fundamental problem because hypertension, with its train of symptoms and sequelae, is recognized as one of the major causal factors of mortality in adult life. It has been estimated that hypertension is present in over 40 per cent of the adult population, either incipiently or actually[2]. Hypertension is typically a disease of late middle life, but it may start earlier. According to Allen and Adson[3], about 25 per cent of all deaths in persons over fifty years of age are referable to hypertension. Mortality statistics now place this disease high among the causes of death in the United States. After the age of forty-five, the death rate from high blood pressure is said to be four times that from cancer and twenty times that from either tuberculosis or diabetes[4]. Viewed from another angle, the incidence of hypertension in persons over forty has become increasingly important because there are now millions of people who survive to this age. One-third of the present population is forty years or older and it has been calculated that by 1980, nearly one-half the population will be in this age group[5].

It has been variously estimated[1, 6] that between 85 to 95 per cent of persons with high blood pressure suffer from a form of the disease known as "essential" hypertension. In other words, the vast majority of those with elevated blood pressures are victims of a disease of which the cause or causes are unknown and in which there are no demonstrable pathological lesions, such as changes in the kidneys or in the large arteries.[7, 10]

The term essential hypertension covers both the so-called benign and malignant forms of the disease. In the much more common benign form, the patient usually develops symptoms in the forties or early fifties after having an increased pressure for five to ten years. After the high blood pressure is discovered during a routine examination; the patient being entirely free from all symptoms. If there are any complaints at all, the symptoms are those of mild headaches, transient precordial pain or malaise. In this benign form, the disease runs a slow, placid course and usually terminates in heart failure, stroke or uremia years later.[11]

Malignant hypertension is a distressing variety of essential hypertension that usually occurs in younger adults. While the benign form may require twenty or thirty years to run its course; the malignant type destroys the patient in as many months. Malignant hypertension is more severe and limited in its course because of the rapidity with which irreversible changes take place.[12] The downward trend of this form of the disease is rapid and stormy. Death is generally quite abrupt and most frequently results from cerebral hemorrhage.

In some instances, the elevated blood pressure can be traced to specific causes. However, as pointed out by Quisling,[13] the percentage of hypertension in which a definite etiology can be determined is very small. Such causes may be classified into several major groups as follows: renal, endocrine, toxemias, vascular lesions, and diseases of the central nervous system. Once the cause is determined to be one of these factors, it may sometimes be entirely and spectacularly removed and the patient apparently cured. This seems to be the case in some surgical procedures on the renal and endocrine types of hypertension.

Nearly a decade ago, great interest was aroused by the experimental studies of Goldblatt and his associates.[14, 15] They had discovered that a persistent hypertension could be created in laboratory animals by the use of an adjustable silver clamp to decrease the blood supply through one or both renal arteries. As a result the kidneys became the center of attention and there appeared a tendency to explain high blood pressure on the basis of this renal ischemia. In spite of the brilliant work and the very valuable information obtained, it is now recognized that the incidence of hypertension directly due to renal factors is quite low.[8, 16, 17, 18] It has been proved that in many cases of hypertension, not only is renal function normal but that the flow of blood through the kidneys is not diminished.[19] In only a small percentage of cases can a definite etiological relationship be established between the renal vascular lesion and the elevation of blood pressure.[20]

While the organic factors responsible for most cases of hypertension remain obscure, there are frequent references to the so-called functional factors which seem to play an important part in the causation of the disease. Without being very specific, reference is often

made to the role of high pressure living and all the emotional stimuli which go with such a life. The fact that emotional elements play an important part in raising the blood pressure has been recognized for many years. As remarked by White,[21] anger, fear, worry, scurry, too great concentration, over-exercise, fatigue and an over-filled stomach each act to raise the pressure. Conversely, equanimity, serenity, rest, relaxation and sleep contribute to its lowering. The psychosomatic element in hypertension is finding increasing acceptance.[22]

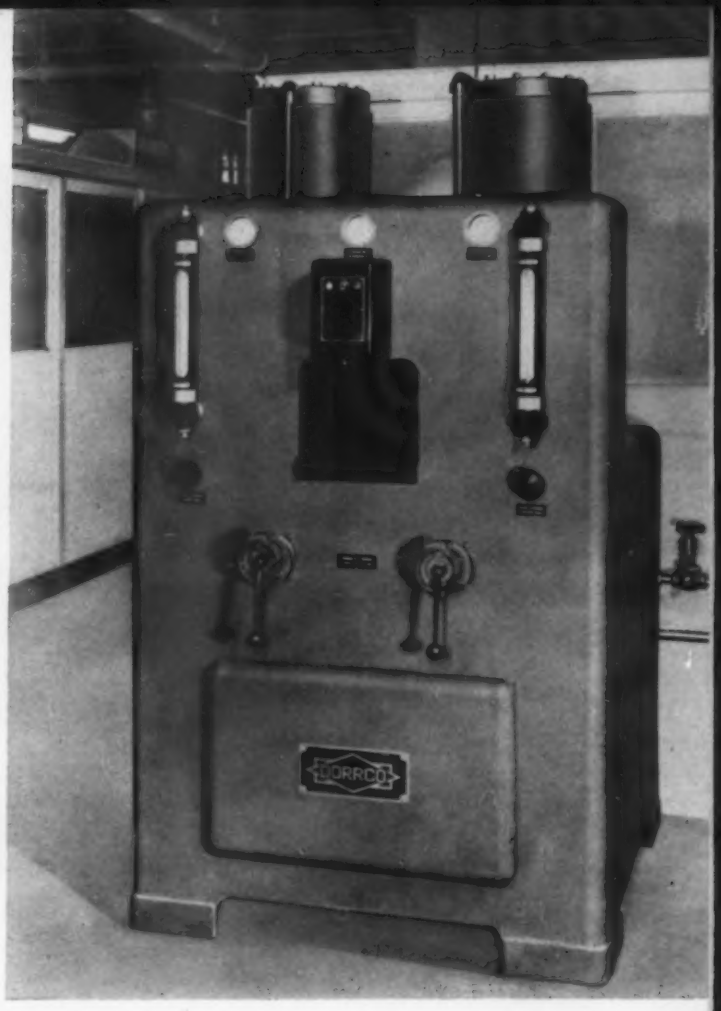
As already indicated, uncomplicated high blood pressure gives rise to no symptoms of itself in the large majority of cases. Indeed, when symptoms do appear they are very often due to an anxiety state resulting from the patient's knowledge that his blood pressure levels are above normal.[10] Of course there is always the danger that an individual unaware of his condition may continue to indulge in activities that will further heighten his blood pressure.[23]

In the later stages, indefinite symptoms begin to appear, such as headaches, fullness and throbbing in the head on lying down, ringing in the ears and dizziness. Insomnia is common and sometimes there may be palpitation of the heart. As the disease progresses, the symptoms become more severe, especially those of cerebral origin.[24]

Strictly speaking, high blood pressure of itself is not a cause of death, but its sequelae and the many associated disorders it produces make hypertension a dangerous condition. If the blood pressure continues high enough for a sufficiently long time the ultimate result is usually fatal; death occurring from apoplexy, coronary thrombosis, angina pectoris, nephritis with uremia or hypertensive heart disease.

By proper treatment it is possible to make hypertension compatible with longevity. Of course, many methods and medicines have been tried for the alleviation of the symptoms and for slowing the course of the disease. Some have been discarded, others are still under investigation while a few are classed as helpful in treating a condition whose causes are largely unknown. It is precisely this lack of knowledge of the basic etiology that makes specific treatment so difficult.

Flaxman[25] stresses that essential hypertension is not an entirely hopeless disease and that the patient with high blood pressure should not and need not be injustly inflicted with a constant fear for his life. A sensible and cooperative individual, he feels, can delay the appearance of the more severe signs and symptoms for many years. Admitting that there is no effective treatment for hypertension, Callis[12] notes that there can be very satisfactory management of the condition. Such management recognizes the importance of the following factors: regularity of the daily routine; adjustment of the diet to the requirements of optimum weight; rest in a recumbent position for a suitable number of hours; moderate daily exercise; adjustment of work habits and ambitions for the relief of mental and nervous stress and strain; the adoption of a restful and interesting hobby; and, the development of a philosophy of life which is self-sufficient. Briefly, such a regimen may be summarized as moderation in all things.[24]



Unit for the D-I system of water treatment, made by The Dorr Co., and described in the article on "Water De-ionization" by Eric Kunnas Jr., in the July issue.

Rest, both mental and physical, is stressed by all who discuss the general treatment of hypertension and to this end sedatives are most useful drugs. Indeed, there are those who feel that such agents are the most useful of all drugs in the medical armamentarium against high blood pressure.[9, 12, 26] Sedation has earned an important place for itself in the management of hypertension, and, according to Atchley,[8] one can give immediate approval to the use of sedatives provided their use is guided by the clinical needs of the patient and not merely by the presence of elevated blood pressure. Sedatives have a beneficial effect in that they promote sleep and tend to lessen emotional stress.

In the opinion of Allen and Adson,[8] the ideal sedative is one which will reduce nervousness and irritability but which will not interfere with essential cerebral activities. They prefer to prescribe phenobarbital and this barbiturate appears to be the choice of many physicians. Often phenobarbital is combined with other agents, like theobromine or theophylline, but

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Future of Men's Toiletries

DURING the last few years trade interest has focused with wonder and envy on the growing volume for men's toiletries. Wonder, because while this branch of the trade is not at all new, the enthusiasm which suddenly appeared in the retail trade and particularly in department stores, for men's toiletries certainly was new, and envy, because of the large new volume was going primarily to newcomers in the industry, at a time when few established companies were in a position to acquire materials or containers for an additional line.

What had happened to make this substantial new market appear so suddenly, that it seemed to many as if prior to 1938 there had been no such thing as a toiletry for men?

Every one knows that before this year and for many years Mennen, Williams, Colgate, Jergens had been selling vast quantities of shaving cream, shaving bowls, after shave lotions,—still the primary items of the men's toiletries lines. Some had sold widely such secondary items as cologne, after shave powder, hair dressing as part of a coordinated line. Together with certain specialties, particularly in hair preparations their large volume shows that as far as the man consumer goes, a man's market for toiletries had certainly not been neglected.

These products were drug store items, they had little gift appeal even in their Christmas packaging and they were treated as staples, in advertising and in their method of distribution. It must be concluded that they operated below the level of this rich market yet to appear.

But the evidence that the market existed and was waiting became clear with the large volume that developed first by Yardley and later by Shulton and then from there in these products.

With the success of these three companies two changes in the men's field appeared, one that a higher

price level, at volume was possible here, two, that the gift factor was a substantial element in this volume and three, that department stores could and would sell toiletries for men.

Still these products had not been recognized as a new and distinct addition to the cosmetic industry, capable of adding many millions of dollars to the total of the industry, nor had the retail trade yet segregated it in their mind as a distinct part of the industry warranting special treatment or particular interest.

All this awaited the appearance of the specialized men's lines, standing or falling on this one theme only and in rapid succession appeared the real architects of this present great market, Seaforth, Courtley, Sportsman and His.

These specialized lines had several distinct advantages which have since helped to clarify the specifications of a successful men's line. They conformed in packaging, advertising and promotion to the axiom that the product in appearance and odor, for its first sale at least must be "not necessarily what a man wants, not what a woman wants, but what a woman thinks a man wants." Because this new market, then an 80% women purchase, now a 70% women's purchase market was and still is primarily a gift market. These new lines had superb gift appeal, they were masculine from a woman's, as well as a man's viewpoint, and perhaps of substantial importance, they were not associated, in the mind of women or men with a name that had successfully acquired feminine appeal. These lines in fact opened the door of the department store, illuminated the minds of department store officials with new and distinct volume to their toilet goods department and the need to think of these products as promotion possibilities in their own right. Within two years, men's toiletries in the class market had survived. With several more newcomers they had succeeded in adding 25 million dollars to the industries' volume, and in the retail field were receiving a flattering interest from store executives in their promotion plans.

Percentage wise in increased volume, men's toiletries have had to bow during the war years only to perfume. No one doubts which side the percentages will favor in the next ten years.

Today men's toiletries stand on the threshold of a great, new market. The industry's conviction in that statement is best indicated by the fact that in no cosmetic product, make-up, cream, perfume, etc. will so many different companies try to establish a new place in 1946 as in men's toiletries. Very near a hundred new ventures, not now on the market will seek business for the 1946 Christmas season.

During 1945 it has been possible to appraise this market of men's toiletries at $1 and over more clearly. Nearly every company entering the field has held to a selective distribution. These products, first winning recognition and securing a firm place in the department store, have been eagerly sought by chains and by the independent druggist. Department stores now are striving to hold their present rate of 50% of the business. Chains and independent druggists have climbed to 35% of the total, leaving 15% to habadashery stores and other special outlets. Whether the end of war spending will alter the percentage of the drug store is an interesting question. It is significant that department stores are giving serious thought to the problem of increasing men's traffic.

Arecent survey by John Hudson Moore, Inc.based on a study of 1,810 sales in 19 department stores in major cities show that 69% of these purchases were made by women, that theaverage ageof the woman purchaser was 38, of the man 35. Of these purchasers, 9% by men were for gifts, 65% of the women bought for gifts. Of all sales 59% were single units, 41% gift sets.

The men in the service have opened great possibilities for the future of men's toiletries. Heavy sales at service stores have demonstrated beyond any question that a new consciousness of good grooming and a satisfaction in men's toiletries is not a feminine hope, that sales directly to men are substantial and growing. And the frequency of request for gifts in this field by men abroad has established in many homes the idea that this is in fact the ideal gift for a man. The pre-war suspicion that toiletries for men may not be quite masculine has died with the war.

Although there are some seventy manufacturers of cosmetics for men listed below, there are well-informed sources which insist that there are twice that many. And it may well be, for currently there are several new ones a week. However, it is a safe bet that these listed below represent over 90 per cent of the dollar volume in these products.

Adam Hats; Avon Products, Inc.; Balpine; S. Buchsbaum; Caron Corporation; Ceda Products; Champrell; Charbert, Parfums Inc.; Charles, Inc.; Mary Chess, Inc.; James E. Coates Co.; Colgate-Palmolive-Peet Co.; Coty, Inc.; Courtley, Ltd.; Mark Cross Co.

De Flandre; Deluxabath; Mary Dunhill, Inc.; Faberge; Louise Fabrisch; John Frederics; House of Gourielli; Guerlain, Inc.; John Hartley; Henri Company; Houbigant Sales Corp.; House of Gordon; House of Hawick; House for Men, Inc.; Jeurelle, Inc.; The Andrew Jergens Co.; Kay Daumit; Kentucky Club; Knize 10.

Laiglon; Lancaster; The Lander Co., Inc.; Lenel Co.; Lentheric, Inc.; Helen Liebert; Lightfoot Schultz, Inc.; L'Orle, Inc., Parfum; Lynmark; Lysandra, Inc.; Man of Manhattan; Mark Allen Co.; Maurella Products Company; Alfred D. McKelvey Company; Mem Company; The Mennen Co.; Merz-Mihm; Middlebrook Lancaster; John Hudson Moore, Inc.; Ferd. Mulhens, Inc.; Parfums D'Artimon; Pinaud, Inc.; Prince George, Ltd.

Saray; Scherck; Schiaparelli, Inc.; Parfumes; Shulton, Inc.; Solon Palmer; Sportline, Inc.; Duncan Storm, Ltd.; Sutton Cosmetics; United Cigar-Whelan Stores, Inc.; United Drug Co.; Jean Vivaudou Company, Inc.; The J. B. Williams Co.; Windsor House; Yardley & Co., Ltd.; Wrisley Co., Allen B.

LOOKING INTO THE FUTURE

When you think of bottles
think of
Swindell
Machine made and hand made
glass containers for cosmetics,
drugs and beverages.
SWINDELL BROTHERS, Inc. BALTIMORE, MARYLAND
500 FIFTH AVENUE, NEW YORK ROBERTO OSTIX—HAVANA, CUBA

Packaging and Selling

New Merchandising Approaches

While the sales of all groups of cosmetics and toilet goods are still growing and further growth can be expected during the coming months and through 1946, there is no denying that the rise does not proceed at as fast a rate as it did through the middle years of the war. Cosmetic manufacturers can not afford anymore just to sit back and watch sales come in. Although not yet at the top of the curve, with a levelling off in sight, the industry has reached a point where it must be prepared to do a better sales job than the present one, if it wants to maintain its position.

It has been a sellers' market for the cosmetic counters and the cosmetic manufacturer heretofore; it is not anymore. Sections of the population, whole geographical districts, are not responding equally well to the sales appeal of certain groups of articles or the brands of individual manufacturers.

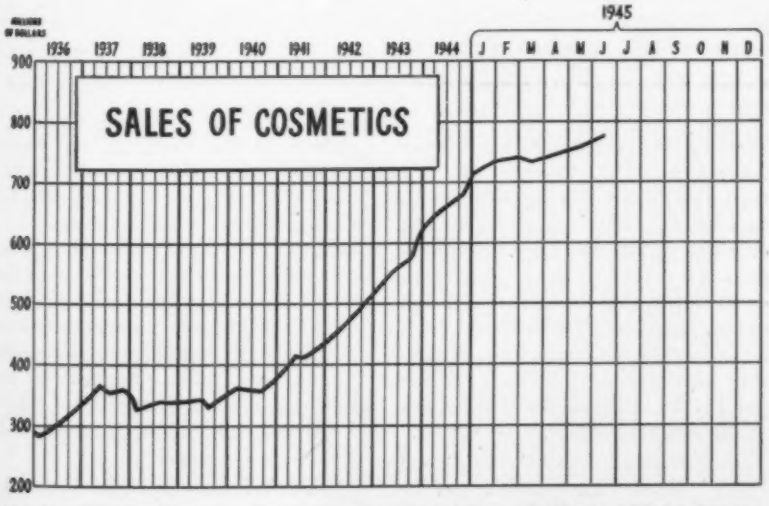
It is futile to place the blame upon the lack of enterprise of the retail stores or insufficient coverage by the manufacturers' salesmen. Even the best counter technique and the most active salesman can not overcome the failure of the industry to maintain interest in an outstanding seller or a dropping away of a large number of customers for a group of profitable products and their replacement by less profitable ones.

There are a great many reasons for these occurrences. None can be singled out as the main culprit. One, doubtless, is the preoccupation of some sales executives with the "quantity" markets, and thus to concentrate upon the big population markets while doing an inadequate job in developing the equally important medium city markets. As the result there has been a growing insufficiency in coverage of a large segment of the cosmetic market, in fact just that section that can supply a much wanted floor below a suddenly developing downward trend.

Big city markets are notoriously fickle, not just for mere cussedness, but because of social conditions inseparable from large city life. The manufacturer who relies upon their doubtless quick response to a quantity appeal to build large volume finds himself only too often in the unhappy position of a traveller in a deflating balloon. There is nothing to stop his descent, no conservative customer to turn to to intercept the fall. Such cases have been plenty during the last two years and more are likely to result, unless there is a thorough re-appraisal of merchandising policies, media and distribution practices.

This does not mean that the big city markets do not serve their purpose when exceptional conditions require exceptional techniques. However, we are now building for the future. The most lasting cosmetic successes were built from the bottom up and not from the roof downward.

More support, for the time being, must be allotted to regulars and products which have become regulars during the war. The too prevalent practice of throwing over-board time-tested good sellers to concentrate all selling effort behind something new is merely replacing new volume for old volume. It does not add to the sales potentialities of the cosmetic counters and the industry as such. If the industry wants to expand during the post-war period it must hold all that it has and find additional articles to sell, or create more interest in those that already exist. This does not mean that any manufacturer with a new product should not make the best of it on behalf of himself and national cosmetic volume. It warns, however, against that approach that confuses the consumer and the sales personnel behind the cosmetic



Retail sales of cosmetics for the twelve months ended with June 1945 totaled $772,775,000. This compares with $757,883,000 for the twelve months ended with May 1945 and with $653,476,000 for the twelve months ended with June 1944.

counters. One of the reasons why many buyers are slow in introducing novelties is that only too often the novelty reduces the demand for competing articles without replacing, or improving upon, the lost volume.

More detailing and direct dealer and consumer relation work must be done by the industry to hold volume, improve weak or weakened spots and broaden the sales basis of the industry.

Of course old established firms can not be expected to abandon distribution practices that have served them well. But this does not mean that newcomers in the field cannot break away from old formulas and adopt new ones holding, because of their novelty, better promise for success in a new direction. At least half a dozen groups of retail stores are still waiting to be brought within the distribution field of the cosmetic industry. There are wide differences in the comparative response of local markets for different groups of products, indicating the presence of a vacuum that might be filled by a novel method of distribution or a more perfect use of existing facilities.

The industry must realize that fundamental changes are in progress affecting the living habits, home location, outlook on life of millions of consumers which must be dealt with by a more intelligent approach to the customers' problems.

Cosmetics for Men

In order to learn how life in the Pacific may have changed the living habits, and consequent buying habits, of men in the services, now that the war is over and some eight to twelve million men will be coming home again, the following opinions were obtained from a naval officer who had an unexampled opportunity to learn these buying habits.

Here was a man whose job was to know the buying habits of those stationed in his part of the Pacific. He had just returned from a "tour of duty," traveling from the Marshall islands to Guam and Iwo Jima, many times being but a few weeks behind the fighting forces which had just taken a new atoll or island, and instructing brother officers in setting up accounting systems for ship's stores, merchandising native products and arranging for their manufacture and sale, etc. The purpose was "to save them from making the same mistakes we did when we first went out there 18 months before they got there."

"There's one habit that I know has been changed for every man in the Pacific," he stated. "I don't care from what social strata he came—I'll bet he took 10 or 12 times as many baths as he ever had in his life before. That applies to every man in permanent quarters, after the fighting is over. It's so hot, you have to bathe several times a day just to keep comfortable. And to stay comfortable, you have to use powder. I don't mean face powder, but this talc stuff, you know. Body powder."

The enlisted personnel are "quite funny" about their powder, too, he maintained. They get to like one brand, and they won't take another.

"On Ebeye, where I was stationed most of the time, there was one favorite brand the men seemed to prefer. When we'd get it in, they'd buy it out, and for the next six weeks the shelves would be bare. They'd leave competitive products right on the shelves and wait for their favorite brand to come in again. I tried it out just to see what made them buy it. There was a difference in texture, but as far as I was concerned the results were the same, and any one of half a dozen other brands were just as good. But not to these men."

While on the subject of baths, he commented as an aside "There's one thing I noticed, I think we had better soap out on the Pacific than you do here

The Cosmetic Trend

If the cosmetic business has taken V-J day without much of a hitch this is primarily due to the fact that buyers had already adopted a policy of hand-to-mouth planning. So what makes counters tick today is not a theoretical economic condition of the consumer that was rapidly overtaken by events, but a desire of buyers to respond efficiently to the new purchasing needs of their customers.

Today's consumer differs from the pre-war one in more respects than mere buying power. If the size of her check is almost double than what it was half a dozen years ago, this is due only in a limited manner to upgrading, but, increasingly more so to the fact that it covers a larger number of items. Selection is now made more carefully and more time is spent upon each purchase. The hurried, often worried customer is out, for the time being.

Depending upon the size of the store and the character of the clientele this is beginning to affect purchasing policies and, in turn, may influence the sales practices of the industry. If stores had all the manpower in the world they would put on a larger sales force to give individual customers more personal attention. However, counter help is still insufficient and this condition may last for a few more months. If buyers want to cash in on the reconversion consumer and her, or his, peculiarities and new habits of making a selection some alternative method must be found.

Enterprising buyers, those of large stores and supported by expert staffs, are buying in larger variety and with an eye upon fitting displays to the new purchasing needs of the customers. This requires more space upon the counters, differentiation of displays into age groups and, in some instances, a getting away from the old idea of grouping articles of one character together upon one spot, regardless of whether they appeal to an older, younger customer or the woman shopping for family use. Price levels are more carefully watched. However, the main note of the display for the present must be to throw more responsibility for making sales upon the silent counter helps and rely less upon personal sales support.

This, buyers think, should not be thought of as a fad but rather as an attempt to make consumers more conscious of the variety of the cosmetic appeal and placing counter technic more securely within the frame into which cosmetic sales are expected to grow during the coming decade.

The point made by many buyers is that such a development carries with it the need for greater awareness of change. As consumer demand splits into age and use groups the industry may either choose to serve its customers by way of a large variety of firms, specializing in the production of cosmetics for designated consumers, as cosmetics for the teen ager, men, babies, etc. Or, large firms may prefer to give their brand to a wider range of cosmetic varieties and let the brand do the selling.

IN A SHOW or a Showcase Beauty SELLS

FOR COLUMBIA PICTURES, the *beauty* of lovely Anita Louise attracts thousands, packs theatres—*sells* tickets. Never do *movie producers* underestimate the selling power of beauty. It SELLS their products. It *can* sell yours.

Anita Louise, in
Columbia's Technicolor Production
"The Bandit of Sherwood Forest"

FOR MAX FACTOR'S FACE POWDER, sold to discriminating women, the *beauty* of packages by Ritchie is a recognized, powerful selling factor. Because an *attractive* package *compels* attention, *suggests* superior quality, and WINS SALES!

Ritchie leads in making *packages that SELL!*

WAY TO A BETTER PACKAGE. The Ritchie way integrates art and artisanship—to give you a better package at a low unit cost. A Package that quickly, unmistakably identifies, fully protects and conveniently dispenses your product. A practical, production-planned package—easy to fill or pack, easy to handle, to stack and display—but *above all* designed for eye-appeal, for quality-impression, for *beauty that sells!*

THE 5 ESSENTIALS OF A SELLING PACKAGE

1. It must be practical, production-planned, economical to manufacture, easy to fill or pack.
2. It must fully protect and conveniently dispense the product.
3. It must be easy to handle, to stack and display.
4. It must *proclaim* the quality and identity of your product.
5. It must be "good looking," memorable, ATTRACTIVE!

W. C. *Ritchie* and COMPANY
8824 Baltimore Avenue • Chicago 17
SET-UP PAPER BOXES • FIBRE CANS • TRANSPARENT PACKAGES

NEW YORK
DETROIT
LOS ANGELES
ST. LOUIS
MINNEAPOLIS

Display in Shipper Open 'em up

when they arrive and they're ready to go to work immediately. Double purpose packages—shipping box plus product display—win dealer's approval. Just a simple setting-up operation and they go into sales action immediately—thanks to H & D's simplified construction. Each box is a master salesman, prepared by expert package engineers who know how to design the kind of sales packages retailers prefer.

H&D Post-War Packaging Idea

SHIPPER DISPLAY BOX*

Trim, attractive, compact H & D Shipper-Display boxes offer these outstanding features; safe transportation; novelty die-cuts; modern design; rich color printing; attractive displays. Make your packaging pay a profit by including it in your merchandising plans. H & D's booklet, "Pack to Attract" is full of profitable ideas. Send for your copy, today.

*U. S. PAT. 2,169,240

Hinde & Dauch

AUTHORITY ON PACKAGING

THE HINDE & DAUCH PAPER COMPANY, 4577 DECATUR STREET, SANDUSKY, OHIO

Factories in BALTIMORE • BOSTON • BUFFALO • CHICAGO • CLEVELAND • DETROIT • GLOUCESTER, N. J. HOBOKEN • KANSAS CITY • LENOIR, N. C. • MONTREAL • RICHMOND • ST. LOUIS • SANDUSKY, OHIO • TORONTO

Packaging Forum

By Josephine von Miklos

The problems of readjustment are great, and only a very few are being solved immediately. Loudly the questions arise: are we going to get new bottles right away? Is board going to be less scarce? Will we be able to use plastic powders for our caps in all the hues of the rainbow? We've all been sitting and planning those miraculous packages for "post war", and all of a sudden "post-war" is here. Some of our plans are ready for production; most of them are still gleams in our eyes. Still, it seems that this industry which has been so ingenious during the war, and in many ways, lucky, now faces a new task. Where we were able to make a great many substitutes do, we now must help speed the use of legitimate materials, if for no other reason than legitimate materials are produced by legitimate industries, and they are those who employ the most people. Too, the many new applications and new materials found during the war, will help to create new uses for this industry. Light metals, better plastics, more efficient methods of fabrication can now be incorporated into our planning. The philosophy of "make-do" can now be replaced by the philosophy of complete performance. The more members of the drug and cosmetic industry demand the last ounce of perfection of material and workmanship, the more service, and, too, fairness of price, will they be able to get from suppliers. This does not mean that we are beginning a period of cut throat competition. It does mean that we have at our disposal the unending power of the finest brains this world has seen in the realm of production, and the colossal amount of material, now to be released for purposes other than the grim, if heroic, pursuits of war.

Too, let us not forget, at this moment, that American ideas and American power have won this war. Already there is a great cry: oh, for Czechoslovakian bottles, oh, for French perfume oils, oh, for European taste. If we only could get to Europe quickly, it is said, to see what they are doing for fashion and style. This writer, European born, but, as it were, American made for a great many years, has always maintained, even long before the war, that the cry for European influence came from the peculiar sense of insecurity which a young people displays, even long after the reason for this lack of assurance, is gone. Perhaps now, after this country has finished the hardest and most magnificent job of its history, even the fashion and cosmetic world will at last discover that there is more to the taste of America as a whole than just the impulse toward imitation of what is done in other lands. If this world now stands on the threshold of becoming "one World", America no longer needs to be told by France or Austria or Egypt, or whatever country it may have been, what colors to wear and what perfumes to smell and what kind of doodabs to use for the lighter side of living. It isn't that we have learned it all and that no one can tell us a thing. It is merely that mature people have found their own ways of good breeding and grooming and leading the good life. Today's drug and cosmetic industry is so very much an American industry, and worthy of the hope it will stay that way, and go on.

in the states. I just can't get a good lather out of your soap here. Ever since I hit the states two weeks ago, from San Francisco to Washington and New York, I've noticed there's something wrong with the soap. If manufacturers want to sell it to the men from the Pacific, they'll just have to make lathery soap."

Not all changes are for the better, this frank naval lieutenant admitted. In the states, as vice-president of an important firm, he was accustomed to using an electric razor and after shave lotion. But out on the Pacific, he ran out of his lotion, couldn't procure any more—and didn't miss it after awhile.

"I don't know just how one firm is going to make out," he surmised. "They always ran their shaving cream as a barracks' special for 10 cents, and when I got back to the states, I had to buy some and found it was 50 cents here. I was darned if I was going to pay that much for it, so I took another brand. We always bought it because it was good, and because it was cheap. But paying five times as much for it back home seemed a bit thick."

So maybe that particular manufacturer's "barracks' special" wasn't such a good idea after all.

Cosmetic Advertising

Cosmetic advertising must go up 50 per cent to $49,100,000 to sustain $756,000,000 of sales and medical supplies advertising must go up 57 per cent to $25,500,000 to sustain $851,000,000 of sales according to a projection into the future of advertising directed by industrial economist Carvel Lange for "Life".

Using $140 billion national income as the figure popularized by the estimates of the Committee for Economic Development, food advertising will require an expenditure of $83.3 million to sustain sales of $17.2 billion, an increase in advertising of 61 per cent. Automotive advertising will have to increase 98 per cent, go up to $59.9 million to sustain sales of $18 billion.

To sustain $81½ billion in sales, expected from a national income of $140 billion and a disposable income of $125 billion, advertising must spend $416 million, an increase of 68 per cent over the 1938-41 average.

Usually, national income is meant to include payroll taxes, direct personal taxes and corporate undistributed profits The "Life" study eliminates those factors, and works with "disposable income:" earned income, dividends, plus the money government pays out in social security benefits and relief.

Packaging Show

The Packaging Show will be held in the Hotel New Yorker, September 18 and 19. According to the release, "A local meeting of the Packaging Division of the American Management Association will be held in New York September 18 and 19, 1945.

In conformity with the policies of the War Committee on Conventions, this will be a LOCAL meeting, with attendance restricted to those living or working in the New York area." Among the conference topics are The Coming Battle of Materials; New Techniques of Functional Plastic Packaging; Packaging Problems Session; Getting the Best from your Packaging Machinery; Postwar Packaging and the Designer; Modern Materials Handling and Warehousing Methods; Non-Functional Characteristics of Adhesives; Peacetime Possibilities for "V" and "W" Boxes.

"And when I said, 'What have you got that I haven't?' she said, 'Oh, I have those beautiful new, modern Foster-Forbes Cosmetic Bottles."

FOSTER-FORBES
Cosmetic Bottles
FOSTER-FORBES GLASS CO., MARION, INDIANA, U. S. A.

SALES REPRESENTATIVES
KANSAS CITY • DETROIT • CHICAGO
CLEVELAND • MILWAUKEE • CINCINNATI
LOUISVILLE • ST. LOUIS • ATLANTA
ST. PAUL • NEW YORK • MEMPHIS
HAVANA, CUBA

The new Seventeen packages designed by Josephine von Miklos are done in soft blue, banded with a white laurel wreath, and have a modern Seventeen signature in cerise.

Velo-Derma is introducing a new face powder in five "Perle" tones—Perle, Perle Rosee, Perle Beige, Perle Ivorie and Topaz—the box retails for $5.

Elmo has created a new cream, Photo-Finish Make-up Remover, designed especially for the removal of cake make-up. It is attractively packaged in a pink plastic jar.

Glamorizing Dental Cream

Glamor has hit the dental cream market in this brave new world of things to come in the form of "Scarlet," a new red dental cream. Scarlet comes in four flavors to suit the taste, rose peppermint, strawberry peppermint, mandarin peppermint and plain peppermint. It is dramatically packaged in scarlet and gold on a background of rainbow colors. Not the least exciting feature of this new dental cream is its price—$1.50 retail. Even Miss Arden didn't aspire to *that* much glamor in her deep pink dental cream which sells for a mere 35 cents, three for one dollar, and carries the name that spells glamor to so many women in the land, Elizabeth Arden.

Fresh Paint

An interesting gadget called Fresh Paint is being offered by Harriet Hubbard Ayer in the form of a smart, functional, light weight banjo-like case of black plastic which contains lip rouge, brush and mirror. Fresh Paint comes in a choice of four shades, True Red, Ayer Pink, V-Red and Flag Red and is priced at $3.50.

Make-Up Remover

Working on the theory that the women who have failed to accept cake make-up with enthusiasm have been mostly women with dry skins or mature skins, Elmo has created Photo-Finish Cream Make-Up. This product is designed especially for the removal of cake make-up and promises a thorough cleansing job which of course is so necessary when cake make-up is used. It's a point well taken and Photo-Finish Cream Make-Up looks especially attractive done up in a pink plastic jar. It sells for $1.50 and can of course, be used to remove any make-up. Although other cake make-up removers have cropped up here and there, very little has been done about promoting them.

New Dress

When Barbara Hurst, president of Seventeen Cosmetics, decided to restyle the Seventeen line, she wanted the teenagers to have something to say about it so she chose a group of young career, college and prep school girls to act as a planning and styling board. There is none of the "little girl" quaint prettiness nor sophisticated elegance about the packages but rather a clean-swept freshness in the preparations themselves, the scent, and the packaging. Seventeen products and kits are all designed to be as purposeful as the modern miss.

New circular stand-up carton tops are being used for two of Richard Hudnut perfumes, Yanky Clover and Violet Sec. Both package designs are by Enid Edson.

Scarlet, a new red dental cream which comes in four flavors to suit the taste. The package is scarlet and gold on a pastel background.

An interesting gadget called Fresh Paint is being offered by Harriet Hubbard Ayer in the form of a smart, light weight case which contains lip rouge, brush and mirror.

Complete Satisfaction from one reliable source

THAT is just what you get when you rely on Anchor Hocking for your glass package—Anchorglass containers combined with matching Anchor Closures. For Anchor Hocking containers are accurate in finish and capacity, are made extra strong to withstand production and shipping hazards. Anchor Caps provide dependable air-tight leak-proof sealing.

To save time, money and misunderstanding —to get better production and protection, why not centralize on one dependable source. Let us show you how Anchor Hocking Package Engineering can help lick your production troubles—*before they begin!*

Tune in "Hobby Lobby" every Thursday Evening, entire Coast-to-Coast Network, CBS.

Matchabelli advertisement which interprets Stradivari perfume in abstractions of color and rhythm. This one is "Beethoven Pastorale" painted by Henriette Reiss.

Kathleen Mary Quinlan has created a new bath sequence in Mist of Dawn. The subtle fragrance of Mist of Dawn is caught in toilet water, body sachet, bath foam, bath oil, dusting powder and a bath mitt.

Timber! is the name of a new line of men's toiletries by Maurella Products. After shave lotion, cologne, talc and shave bowl, appropriately packaged, are scented in a clean, outdoor, and completely masculine fashion.

Abstractionism Sells Perfume

Matchabelli's current advertising represents a departure from the usual type of perfume advertising. These new ads are reproductions of original paintings by Henriette Reiss, interpret STRADIVARI PERFUME in abstractions of color and rhythm, the artist likening her reactions to the moods inspired by well-loved musical masterpieces. First, there is the Beethoven "Pastorale," then "Spectre de la Rose," based on Von Weber's beloved "Invitation to the Waltz," with the promise of others equally intriguing to follow.

By this time Matchabelli has doped out a triple threat in that they've got Stradivari appealing to three senses—smell, hearing and sight, in that order. Which is mighty good going, although we insist upon waiting expectantly for them to do something about the other two.

Sizzy and Puzzy

A somewhat different approach to the children's cosmetic market is offered by The House of Puzzy, Baltimore. The H of P puts the emphasis upon good habits and the line is planned and sold with that as the keystone of the merchandising effort. Typical copy states that "Now! Good Habits are Heaps of Fun! The Sizzy (or the Puzzy, as the case may be) Good Habit Kit." It adds that the little miss (or the little lad) will love to use these daily good habit items with pleasure and lots of fun. The set-up is complete even to pictures of Sizzy and Puzzy and a typical kit consists of tooth paste, tooth brush, castile soap, borated talc and a toilet water or castile shampoo. This set retails for $1.25 and there are assorted other items such as a tooth brush and a glass, a hair brush and a comb, etc. This seems like a well-conceived effort to sell Sizzy and Puzzy as well as mom and pop.

Youngest Glamor Crowd

Paying tribute to America's youngest glamor crowd, Orloff has designed a complete line of gift toiletries for the nursery set. Appropriately named Baby's Breath, the line contains everything with which to pamper baby from essential oils, ointments and powder to gift sachets and scented hangers. The pink and blue milk glass apothecary jars and bottles are painted with different flower motifs and are packaged in dainty boxes picturing cherubs in clouds. It is rather interesting to note how well these adaptations of antique apothecary jars lend themselves to the baby products.

Another Matchabelli ad which interprets music in color as Stradivari perfume interprets emotion in fragrance. It is "Spectre de la Rose" inspired by a Strauss Waltz.

Strange Music is offered by Farel Destin in toilet water, dusting powder, lipstick, face powder Odoleur, cream and compact rouge, appropriately packaged with a music motif.

Orloff has designed a complete line of gift toiletries for the nursery set named Baby's Breath, packaged in pink and blue milk glass apothecary jars and bottles.

PRODUCT IDENTIFICATION

with

PAISLEY LABELING ADHESIVES

Paisley supplies Adhesives for attaching paper labels to any and all kinds of containers and packages. They range from brushable Pastes to the highest speed Glues for fast automatic machines. We can adhere labels to wet, greasy, hot or cold containers . . ice-proof and water resistant types for beverage and food containers subjected to refrigeration or water immersion. Label Pastes and Cements that stick to varnished, inked or lacquered surfaces . . to plastics and foil. YOUR labeling job can be handled by a PAISLEY ADHESIVE.

PRODUCT PROTECTION

with

PAISLEY PACKAGING ADHESIVES

The experience that PAISLEY has gained in supplying waterproof and special adhesives for rigid Army and Navy packaging and fabricating specifications has enabled us to produce civilian packaging adhesives with new high standards of quality and performance.

No one adhesive group can honestly be the answer to all packaging adhesive operations. For this reason, PAISLEY works with *all* adhesive raw materials, such as:

Starch Bases....Dextrines, Flours (Tapioca, Corn, Potato)
Animal Bases...Hide, Bone, Gelatine, Fish.
Protein Bases...Casein, (Prepared liquids).
Resin Bases....All types of synthetics (emulsions and solutions) and hot melt thermoplastic coatings, laminants.
Rubber Bases...Synthetic rubbers, reclaimed rubbers, latex.
Asphalt Bases..Emulsions, specially compounded.
Wax Bases.....Resin-wax specialties, sealing compounds.
Gum Bases.....Natural and Synthetic.

Thousands of adhesive formulae have been compounded from these main adhesive bases, each one having special qualities that suit it to a specific packaging, labeling or sealing operation. They must be intelligently selected with full knowledge of their limitations as well as their many virtues. For this reason PAISLEY SCIENTIFIC Adhesive Service was formed to assist the packaging adhesive user in obtaining the one best, correct adhesive to meet the individual operation under study.

Paisley SCIENTIFIC ADHESIVE SERVICE

PAISLEY PRODUCTS INCORPORATED

Manufacturers of Glues, Pastes, Resin Adhesives, Cements, and Related Chemical Products

1770 CANALPORT AVE., CHICAGO 16, ILL. • 630 W. 51st STREET, NEW YORK 19, N. Y.

BORAX...

...works wonders with glass

MOST people think of borax as a crystalline white powder used to soften hard water. But to the glass chemist, borax is a wonder-working ingredient that greatly improves the quality of glass.

Borax, when added to the glass batch, facilitates the melting and refining of the glass. And the boric oxide which borax supplies makes glass clearer, more brilliant, more durable, more resistant to chemical attack and less subject to thermal shock.

Although most glass ingredients are obtained locally, borax is an exception. Most borax comes from Death Valley. Even with the improvements in mining and transportation since the days of mule teams, it is a relatively expensive ingredient and is used only in quality glass.

Through constant research, Armstrong's glass chemists have learned to make the most of borax's valuable properties, thereby improving the performance of all Armstrong's finished ware. Their success is another reason why Armstrong's glass enjoys a steadily growing reputation for top quality.

Armstrong's illustrated booklet, "Men and Glass," contains many additional interesting sidelights on the making of fine glass. Send for your free copy, write today to Armstrong Cork Company, Glass and Closure Division, 3809 Prince St., Lancaster, Penna.

ARMSTRONG'S GLASS

and

ARMSTRONG'S CLOSURES

"The bigger the family—the better the service"

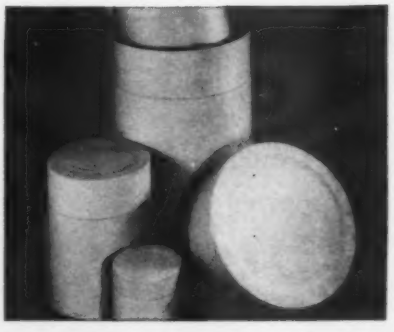
THAT being true, you can be sure of getting the *best* packaging service you've ever enjoyed from the Continental family. For Continental's family has been greatly expanded.

Continental offers you a combination of years of technical skill and experience with increased resources and facilities. This combination assures a calibre and range of service capable of producing the best package for your product.

Continental's packages are varied—metal containers, (Packers' cans for food, General Line cans for household and industrial products), liquid-tight paper cups, containers, fibre cans and drums, steel pails, other heavy-duty containers.

We're in war work now. But keep your eye on Continental's trademark! It stands for *one* company with *one* policy—to give you only the very best in quality and service.

Tune in: "REPORT TO THE NATION" *every week over coast-to-coast CBS network*



Continental Fibre Drums—Continental makes a full line of fibre drums, both the all-fibre and the metal-end types, for shipping chemical and pharmaceutical products. "FIBERPAK," (illustrated) an all-fibre drum (from ¾ gal. to 67 gal. capacity), and "LEVERPAK" (from 12 gal. to 75 gal. capacity), for fine chemicals and similar expensive materials; "STAPAK" Drums (from 2 gal. to 32 gal. capacity) for less costly materials such as soap powders, cleansers, colors, detergents. Wide selection of linings, coatings, treatments and constructions to meet specific requirements.

CONTINENTAL CAN COMPANY, INC.

CONTINENTAL PAPER DIVISION

FIBRE DRUMS The Container Co., Van Wert, Ohio

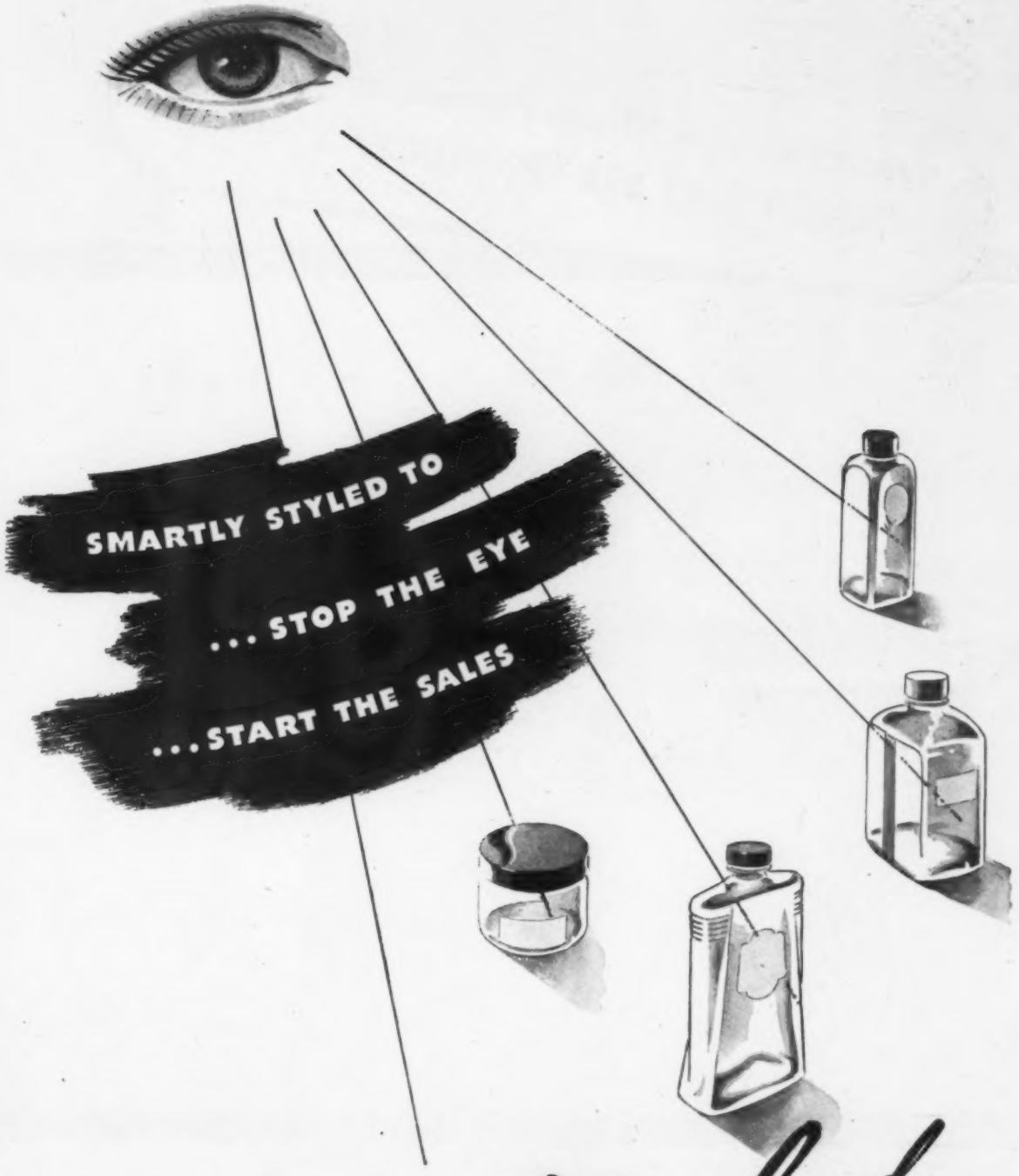
LIQUID-TIGHT FOOD CONTAINERS Boothby Fibre Can Co. Roxbury, Mass.

PAPER CUPS Mono Containers, Newark, N. J.

COMBINATION PAPER AND METAL CONTAINERS

Headquarters 330 W. 42d St., New York 18, N. Y.

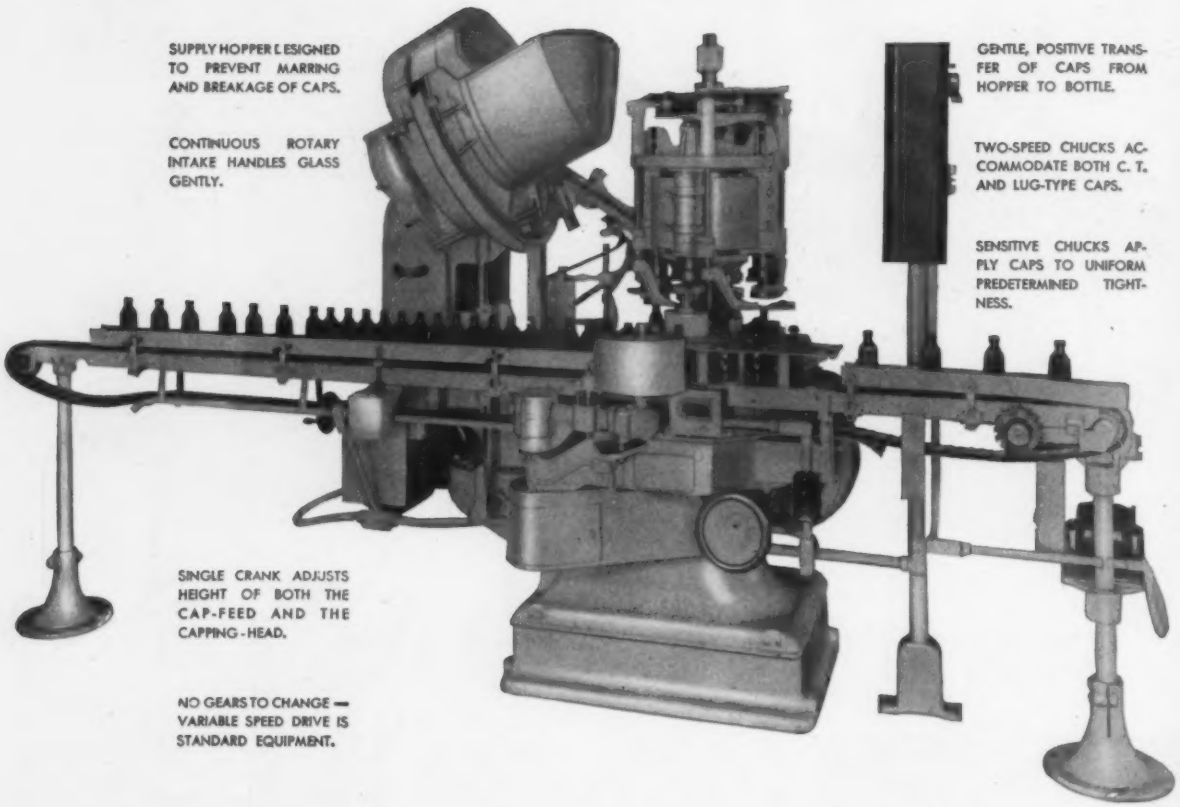
13 Plants—Sales offices in all principal cities



PACK TO ATTRACT IN *Maryland* GLASS

MARYLAND GLASS CORPORATION, BALTIMORE 30 ... 270 BROADWAY, NEW YORK 7 ... BERMAN BROS., INC., 1501 S. LAFLIN ST., CHICAGO 8 ... J. E. McLAUGHLIN, 401 LOCK ST., CINN. 2 ... ALLER TODD, 1224 UNION AVE., KANSAS CITY 7 ... S. WALTER SCOTT, 608 McCALL BLDG., MEMPHIS 3 ... H. A. BAUMSTARK, 4030 CHOUTEAU AVE., ST. LOUIS 10 ... OWENS-ILLINOIS GLASS CO., PACIFIC COAST DIV., 135 STOCKTON ST., SAN FRANCISCO 19.

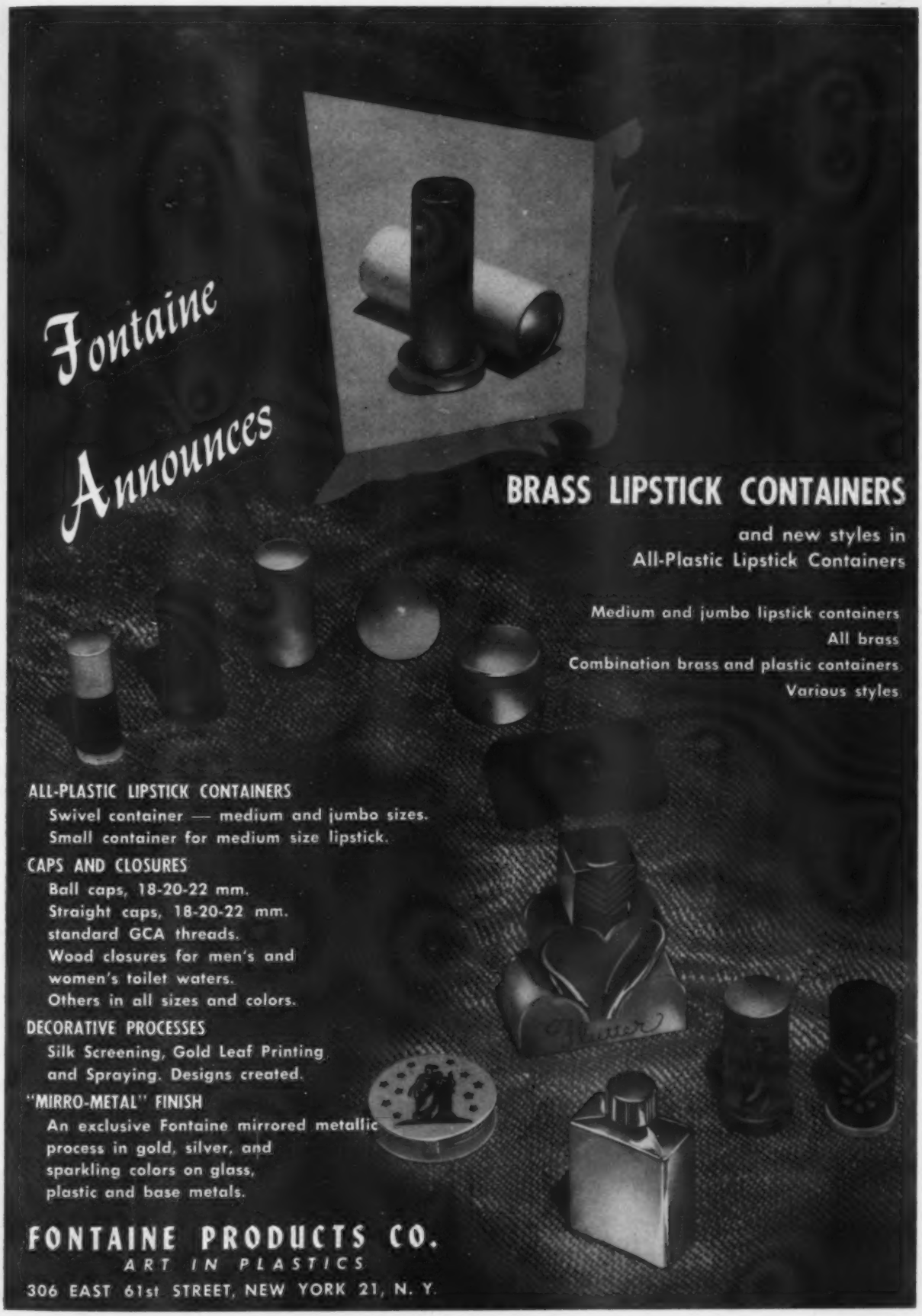
WHY PNEUMATIC CAPPING MACHINES MAKE "LOWER COST PER CONTAINER" A FACT


SUPPLY HOPPER DESIGNED TO PREVENT MARRING AND BREAKAGE OF CAPS.
CONTINUOUS ROTARY INTAKE HANDLES GLASS GENTLY.
GENTLE, POSITIVE TRANSFER OF CAPS FROM HOPPER TO BOTTLE.
TWO-SPEED CHUCKS ACCOMMODATE BOTH C. T. AND LUG-TYPE CAPS.
SENSITIVE CHUCKS APPLY CAPS TO UNIFORM PREDETERMINED TIGHTNESS.
SINGLE CRANK ADJUSTS HEIGHT OF BOTH THE CAP-FEED AND THE CAPPING-HEAD.
NO GEARS TO CHANGE — VARIABLE SPEED DRIVE IS STANDARD EQUIPMENT.

PNEUMATIC is proud of its slogan for just one reason—*because Pneumatic Machines live up to it in actual day in and day out performance.* This Four Head Automatic Capping Machine is designed, engineered, and machined to cap at **LOWER COST PER CONTAINER**—and it can and does deliver the goods. Its many unique features explain why. For full details on Cleaning, Filling, Capping, and Labeling Equipment, write to PNEUMATIC SCALE CORPORATION, LTD., 70 Newport Ave., North Quincy 71, Mass. : New York : San Francisco : Chicago : Los Angeles.

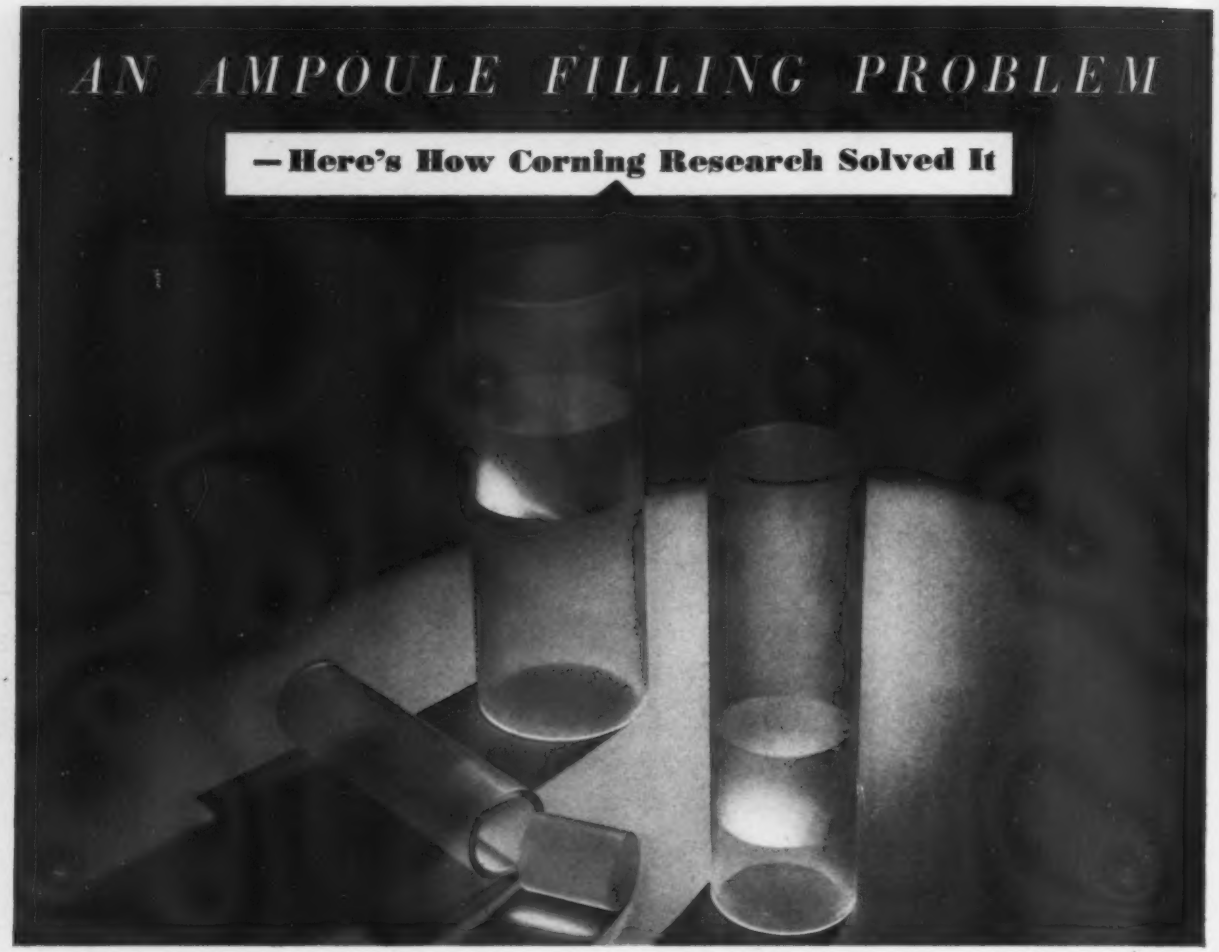
FIFTY YEARS OF PROGRESS 1895 1945

PNEUMATIC
PACKAGING AND BOTTLING
MACHINERY


Fontaine
Announces
BRASS LIPSTICK CONTAINERS
and new styles in
All-Plastic Lipstick Containers
Medium and jumbo lipstick containers
All brass
Combination brass and plastic containers
Various styles
ALL-PLASTIC LIPSTICK CONTAINERS
Swivel container — medium and jumbo sizes.
Small container for medium size lipstick.
CAPS AND CLOSURES
Ball caps, 18-20-22 mm.
Straight caps, 18-20-22 mm.
standard GCA threads.
Wood closures for men's and
women's toilet waters.
Others in all sizes and colors.
DECORATIVE PROCESSES
Silk Screening, Gold Leaf Printing
and Spraying. Designs created.
"MIRRO-METAL" FINISH
An exclusive Fontaine mirrored metallic
process in gold, silver, and
sparkling colors on glass,
plastic and base metals.
FONTAINE PRODUCTS CO.
ART IN PLASTICS
306 EAST 61st STREET, NEW YORK 21, N. Y.

AN AMPOULE FILLING PROBLEM

—Here's How Corning Research Solved It



An All-Glass Measuring Cylinder That Fills Vials and Ampoules With Precise Quantities • Non-Lubricated • Non-Contaminating • Wear-Resistant

PHARMACEUTICAL MANUFACTURERS call it a filling machine barrel. Here at Corning, however, it was an important Research Project. For simple as it looks—consisting of only two pieces of glass—this measuring cylinder required many months of experiment and study. In its finished form it represents an achievement in glass making that would have been deemed impossible ten years ago. The plunger and the inside of the cylinder are ground to extremely rigid tolerances, providing a close, sliding fit.

In effect it is a precise, accurate non-lubricated all-glass valve. In use it becomes the heart of a filling device mechanically filling vials and ampoules with serums and solutions to minute fractions of a cc., with minimum loss.

Made from Pyrex brand Chemical Glass No. 774, it is non-contaminating and wear-resistant. It withstands repeated sterilization. Designed to meet particular specifications in the handling of costly pharmaceuticals and medicines, its full usefulness is still almost unexplored. Inquiries from interested manufacturers are cordially invited.

"Pyrex," "Vycor" and "Corning" are registered trade-marks and indicate manufacture by

CORNING GLASS WORKS · CORNING, NEW YORK

PYREX FOR PRODUCT PROTECTION FROM PROCESS TO PACKAGE **PHARMACEUTICAL GLASSWARE**

CORNING *means* Research in Glass

for Sealing and Selling

USE DODGE MILBOSSED-TOP CORKS

DODGE Milbossed-Top Corks provide complete product protection and add sales appeal to any package.

Those qualities that make cork so desirable for sealing and re-sealing have been incorporated in a durable, smartly designed closure—the kind that can be removed and replaced easily and conveniently by your customers.

The handsomely finished hard wood tops are available in standard colors and patterns or they can be made up to your order—carry your name or trade mark.

Dodge's many years of experience in closure designing makes them particularly well fitted to assist you with your sealing problems. For complete information on *your* particular requirements, consult Dodge. Suggestions, prices and approximate delivery dates will be furnished without obligation.

DODGE CORK COMPANY, INC., LANCASTER, PA.

Dodge Taper Corks are available in a complete range of sizes to fit all standard bottles. The uniform quality of these corks makes them a logical closure choice where style and ease of removal are not prime requisites.

DODGE CORK *Closures*

Designed to Guard the Integrity of the Contents

Protected by Shatterproof Clearsite* *the Plastic Containers*

SEAMLESS
SHATTERPROOF
FEATHERLITE
imprinted during
manufacturing process

Beauty and DURABILITY go hand-in-hand; —inherent in *every* CLEARSITE container. CLEARSITE is *plastic* . . . crystal-clear or beautifully imprinted in any colors during manufacturing process . . . definitely a packaging asset!

*Reg. U. S. Pat. Off.

Ask Our Packaging Design Staff for Suggestions

CELLUPLASTIC CORP.

CELLUPLASTIC CORPORATION

PLASTIC CONTAINERS
AND
PLASTIC PRODUCTS

60 AVENUE L NEWARK 5, N. J.

NEW YORK OFFICE—630 FIFTH AVENUE WEST COAST CONTAINER SERVICE COMPANY, LOS ANGELES 27, CAL.

. . . BUT I WANT IRISH LINEN

Early in the 18th century, the Irish Linen Board was organized to promote the industry and control quality. It established definite standards which were rigidly maintained. All linens had to be inspected and stamped by a seal master, appointed by the Board, before they could be placed on sale.

This practice of guaranteeing linen quality by an official seal is continued today by the Irish Linen Society. It is largely responsible for the established confidence in the excellence of Irish Linen and its general acceptance as the standard of quality.

In the field of glass containers, the name Carr-Lowrey has comparable significance. Over the years our constant aim has been the maintenance of "superior quality." More than 52 years of devotion to this principle has earned the confidence and acceptance of a host of users of fine glass containers.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD. • *New York Office:* 500 Fifth Ave. • *Chicago Office:* 1502 Merchandise Mart

Two Proven Winners!

W. BRAUN cut-glass type Decanters have proven to be instant sales winners wherever featured. While we have made some restrictions previously, we can now ship to certain additional territories. Write us your needs over the coming year for full particulars.

W. BRAUN CO.

Over 1/3 Century of Dependability

304 N. CANAL ST. • CHICAGO 6, ILLINOIS

Plan your Plastics Packaging Now!

All the sales appeal of Plastic Containers... alluring colors, convenience and satiny feel... will be available some day soon for unlimited use.

Soon, that is, for the manufacturer who realizes the vital importance of his postwar packaging problem... and makes his plans today.

As one of the largest and oldest molders of prewar closures, containers and lipstick holders in Plastics, we urge you to remember this. The first packaging items on our presses *tomorrow* will be the ones designed *today*.

Ever since we originated the screw-top Plastic Rouge Box here at Kurz-Kasch, we have specialized in Plastic Packaging for all types of cosmetics . . . for dry rouge, cream rouge, mascara, face powder, and lipstick. Ask today for information on stock molds or special custom jobs.

Meanwhile — don't forget to BUY WAR BONDS!

KURZ-KASCH

For over 25 years Planners and Molders in Plastics

Kurz-Kasch, Inc., 1421 South Broadway, Dayton, Ohio
Branch Sales Offices: New York • Chicago • Detroit • Indianapolis • Los Angeles • Dallas • St. Louis • Toronto, Canada
Export Offices: 89 Broad Street, New York City

Salute the Victory...

with "Right Dress" for your Product!

Packages that have been wearing war-time garb may now return to civilian gaiety . . . via Warnercraft.

Master designers are ready to sit in with you now, and assure the dominance of your product on the counters and shelves of America by forceful charm.

With restrictions lifted on raw materials, only your need and function shape the choice.

Warnercraftsmen, skilled in the art and trade of making "packages the public prefers," stand at their posts, awaiting your instructions.

Let a Warnercraft specialist in packaging procedure suggest the most effective container for your postwar merchandise. A call from you will be promptly answered.

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers

THE WARNER BROTHERS COMPANY

Main Office and Factory: 325 Lafayette Street, Bridgeport, Conn.
New York Sales Office: 200 Madison Avenue, New York, N. Y.

WARNERCRAFT

"THE FINEST WORD IN PACKAGING"

Display and Protect Them in
LUSTEROID *Vials and Tubes*

When planning your post-war packaging, keep this suggestion in mind:

1. LUSTEROID displays your product through its crystal-clear walls for eye-and-buy appeal.
2. LUSTEROID's strength and rigidity protect your product from harm in shipment, at point of sale and in use.

But that's only part of the LUSTEROID story! This lightweight plastic saves time, work and money. Its inherent strength eliminates the need for protective packing in shipment. Its "printability" means no labels to affix. Its colors—clear or opaque—give you all hues of the rainbow to work with. Sizes from ¼" to 1¼" in diameter—lengths up to 6". Cork, slip-on or screw-cap closures.

Write for post-war details now.

LUSTEROID CONTAINER CO., INC.
Formerly Lusteroid Division of Silltocks-Miller Company

Office and Factory
10 W. PARKER AVENUE, MAPLEWOOD, N. J.
MAILING ADDRESS: SOUTH ORANGE, N. J.

....LAST WORD IN "ON THE PACKAGE" PRINTING SENDS HELENA RUBINSTEIN'S "HEAVEN SENT" OUT INTO THE WORLD SELF-ASSURED AND LOVELY IN ITS PERFECTION.

SILK SCREEN PRINTERS TO THE COSMETIC FIELD
CREATIVE PRINTMAKERS GROUP
14 WEST 17 STREET • CHELSEA 3-6803-4-5

SHEET METAL GOODS
SPRINKLER TOPS
CORK TOPS DOSE CAPS

CONSOLIDATED
FRUIT JAR COMPANY
NEW BRUNSWICK, N. J.

CONSOLIDATED OFFERS

1—World automatic Straightaway Labeller.
1—90 gal. stainless steel jack. Kettle.
1—No. 5 Sweetland Filter, 20 copper leaves.
1—Stokes Auger type Powder Filler.
1—Semi-automatic Labeling Machine.
5—Dry Powder Mixers, up to 2000 lbs.
20—Aluminum, Copper, Glass Lined, jacketed and agitated Kettles.
1—Abbe Blutergess Sifter No. 2.
2—Colton No. 3 Toggle Presses.
3—Stokes Steam Water Stills, 5, 10, 25 gal. per hour.

Only a partial listing. Send us your inquiries.

We buy and sell from a Single Item to a Complete Plant
CONSOLIDATED PRODUCTS CO., INC.
20-22 Park Row, New York, N. Y. Shops: 235 Divisman Ave., Newark, N. J.

"SILENT SALESMEN" WILL TAKE A BACK SEAT IN TOMORROW'S STORES

"……!"

"……!"

"HEY, LADY, LOOK AT ME!"

"RIGHT HERE, MISTER!"

You'll need a package that talks. And there's nothing like Coated Lithwite to make it speak up and sell

ONE THING CERTAIN about tomorrow's stores . . . there's going to be *more* self-service, not less. *More* mass displays, not fewer. And that means a greater need than ever for packages that can outtalk competition at the point of sale.

Many a leading manufacturer has already discovered that cartons made of *Coated* Lithwite, the revolutionary, machine-coated paperboard, have a crispness and brilliance that get attention, make them speak out above competition. *Coated* Lithwite holds up colors with eyecatching brilliance, enables you to present a persuasive, "speaking likeness" of your product. And its velvet-smooth surface gives your package a look and feel that says there's *quality* inside.

As you plan your postwar packages, keep *Coated* Lithwite cartons in mind. The day is coming when Gardner-Richardson will again be able to accept orders for cartons made of this revolutionary machine-coated paperboard that turns *"Silent Salesmen"* into *talking* packages.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

CLIP THIS!

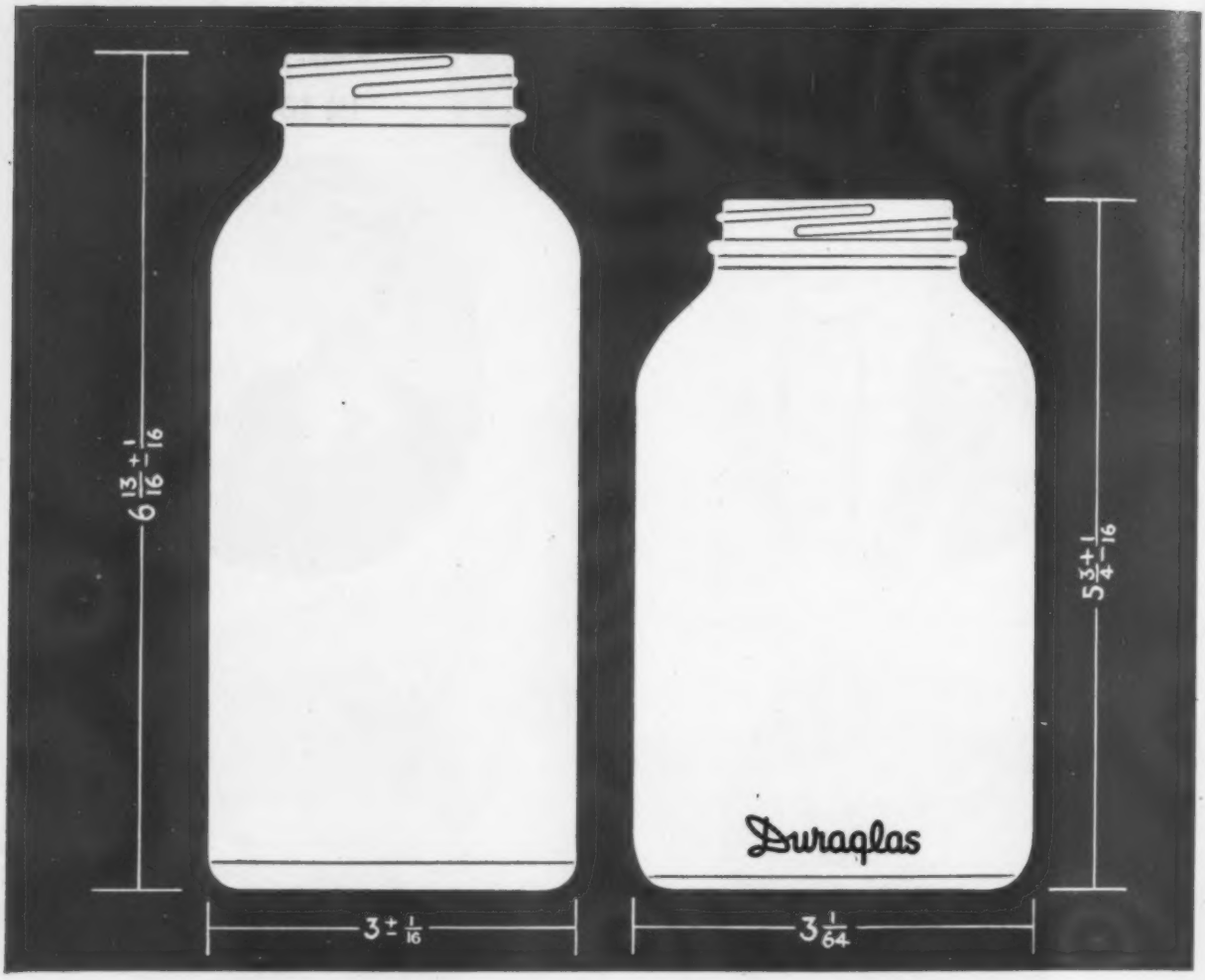
File this Coated Lithwite memo for reference when this quality paperboard is again available.

1. Made by a revolutionary process. *Coated* Lithwite is the brighter, whiter paperboard that is formed, made and coated in one high-speed operation. Proved and improved for six years.

2. Means more eye-appealing cartons. *Coated* Lithwite's smooth, velvety, chalk-free surface forms a better base for printing inks and plates—reproduces even the smallest type cleanly, crisply. Brings colors up brilliantly—gives halftones a sharp realism.

3. Fewer jammers and leakers. *Coated* Lithwite scores without flaking or shattering. Takes a positive, tight seal.

Sales Representatives in Principal Cities: PHILADELPHIA · CLEVELAND · CHICAGO · ST. LOUIS · NEW YORK · BOSTON · PITTSBURGH · DETROIT



ADDED VALUES IN Duraglas WIDE-MOUTH PACKERS

BOTTLES, even widely accepted traditional shapes, are never static at Owens-Illinois. Our designers and engineers are always improving them . . . reducing weight while increasing strength . . . changing curves for the better, making them easier to fill and to dispense from.

Take Duraglas Wide-Mouth Packers, for example.

We've made them stronger but cut their weight up to 34%. Cut down their over-all height from 15% to 20% without reducing capacity. Sloped their shoulders, toed in the bottom, reduced neck length for better distribution of glass.

Wide-mouth packers are the best packages for dry pharmaceuticals, powders and large quantities of tablets. They are moisture-proof, safeguard their contents . . . operate fast in standard packaging machinery and labelers . . . are preferred by customers.

Improved Duraglas Wide-Mouth Packers are made in Amber, Flint and Emerald Green.

OWENS-ILLINOIS GLASS COMPANY
TOLEDO 1, OHIO
Branches in All Principal Cities

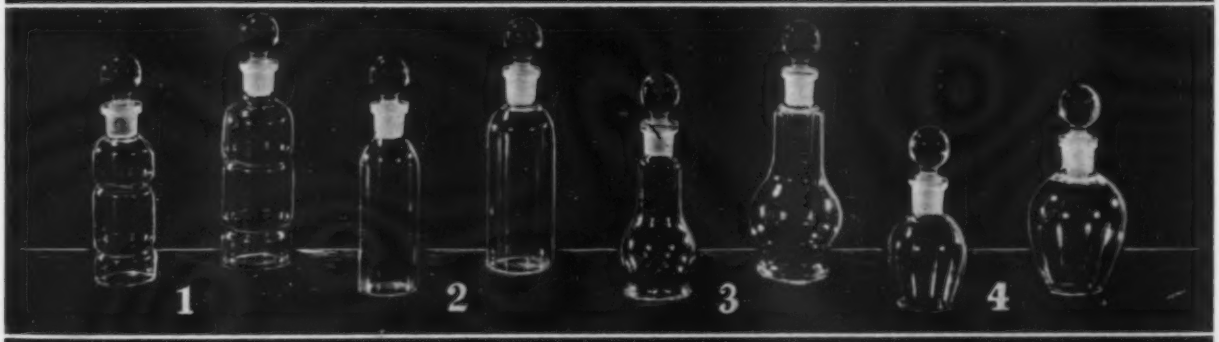
Duraglas
CONTAINERS
PROTECTORS OF QUALITY

BRIDGEPORT
METAL CONTAINERS

VANITY CASES
ROUGE CASES
PASTE ROUGE CONTAINERS
LIPSTICK HOLDERS (All Types)
POWDER BOX COVERS
EYEBROW PENCIL HOLDERS
BOTTLE CAPS
JAR CAPS
METAL NOVELTIES TO ORDER

THE BRIDGEPORT METAL GOODS MFG. CO.
Established 1909
BRIDGEPORT 'PHONE: BRIDGEPORT 3-3125 CONNECTICUT

Additional Creations of our New Distinctive Stoppered Bottles



Four Distinct Styles: 1. SPOOL TYPE (Exclusively Consigned for 1945) 3. BULB TYPE (Available)
2. SMOOTH ROUND (Available) 4. TEAR DROP (Available)

These hand made, unique, glass stoppered bottles have a fine-polished glass stopper with 400 grit finish. Guaranteed leak proof. Continued shipment assured.

Other Items We Can Supply:

Plastic and metal closures for the cosmetic trade in a variety of designs and colors. Bottles and jars in Opal & Flint — Specializing in enameling caps in your color.

For Details Write At Once

RICHFORD CORPORATION · 221 Fourth Ave. · New York 3, N. Y.
Phones: ALgonquin 4-6311 · 4-6312 · 4-6313

ONE OF 22 DOW CHEMICALS USED BY THE COSMETIC INDUSTRY

they put it in writing!

pencil makers pick Methocel as thickener and binder

Methocel has a knack for pointing out easier ways to do things. Example? Ask the pencil manufacturers! Here's how Methocel helped them simplify the preparation of colored crayon pencil leads:

Into these leads must go a wax, a water-soluble pigment, a thickener, and a binder. Alert manufacturers consulted with Dow . . . found that Methocel could take over both the thickening and binding roles—and do them well. Moreover, Methocel would not decompose, eliminating any necessity for adding a preservative.

Today Methocel is the most widely used colored crayon thickener and binder. The wax and coloring matter are simply incorporated into a thick Methocel solution or paste, and leads of smooth, even quality result.

What jobs can *you* do more efficiently with Methocel? As a dispersing medium, thickener, binder, and coating agent, this water-soluble cellulose ether is solving many problems. For full particulars about Methocel, just drop a line to Dow.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

Methocel

Water Soluble Dow Methylcellulose

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY

NEWS . . .

Bonham Named Emerson President

Kenneth A. Bonham, formerly executive vice-president, has been elected chairman of the executive committee and president of Emerson Drug Co.,

KENNETH A. BONHAM

succeeding Walter W. White who retired August 28.

H. L. Grafer has been elected vice-president in charge of sales and John H. Kelly vice-president in charge of advertising. Hamilton Shea has been elected treasurer.

Sir Alexander Fleming Honored

Sir Alexander Fleming has been elected to honorary membership in the corporate body of the Philadelphia College of Pharmacy and Science. This is a unique honor, the most recent scientist from abroad receiving it was Mme. Curie.

Dow Small Package Division

A new merchandising division which will devote its efforts to small package and consumer items has been formed by the Dow Chemical Company. The new Specialty Products division is headed by Sherman W. Putman, former assistant general sales manager, and concentration will be on specialty insecticides and certain fabricated magnesium articles, but other items will be added to the line as dictated by future developments. Dr. Williard H. Dow, president of the company, states: "The decision to set up such an organization in no way conflicts with our present bulk marketing policy, as its activities will be limited to products for which no adequate means of distribution now exists."

United-Rexall Officials to L. A.

Executive offices of the United-Rexall Drug Co. will be moved from Boston to Los Angeles this fall. The manufacturing plants in Boston, St. Louis, New Haven and other cities will remain in their present locations. E. J. Griffing, vice-president in charge of many of these plants will continue to maintain his office for manufacturing supervision in Boston. The Seamless Rubber Co., which operates under F. Thatcher Lane, president, as a separate division, will remain in New Haven.

A regional office will be maintained in Boston and a new warehouse will be established there.

DuBois Retires from Monsanto

Gaston F. DuBois, vice-president and member of the executive committee of Monsanto Chemical Co., holder of the Perkin Medal and one of the foremost figures in the American chemical industry for forty years, has retired. He will continue as a director and will also serve as a consultant to the company.

Born in LeLocle, Switzerland, he joined Monsanto in 1904, three years after the late John F. Queeny founded the company. From 1913 to 1920 he served as production manager and in 1920 became vice-president and technical director. In 1930 he was named vice-president in charge of research and development, and in 1939 became a member of the company's executive committee.

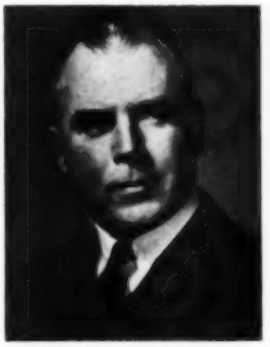
Mr. DuBois was awarded the Perkin Medal in 1943 in recognition of his outstanding work in applied chemistry. He was educated at the Federal Polytechnic Institute in Zurich, Switzerland, from which he received a degree in chemical engineering in 1903, and took a post graduate course in electrochemistry at the Technische Hochschule, Dresden, Germany.

Soon after his graduation from the Federal Polytechnic Institute, he was engaged as a guide for a business tour of Europe, by John H. Queeny who suggested that Mr. DuBois visit America during the 1904 World's Fair in St. Louis. Mr. DuBois accepted the invitation and while here accepted a job with Monsanto.

Roden Heads A.H.P. Cosmetics

H. W. Roden, vice-president of American Home Products Corp., New York, has been made head of the company's cosmetic division and president of its cosmetic subsidiary, Affiliated Products, Inc. Mr. Roden has for a number of years been president of American Home Foods, Inc., and will continue to head the company's food division.

Mr. Roden joined American Home Products in 1939 when that company acquired Harold H. Clapp, Inc., a baby



HENRY W. RODEN

food manufacturing concern of which he was president and general manager. Subsequently he was made chairman of the board of the G. Washington Coffee Refining Co. when that company was acquired in 1943 and president of P. Duff and Sons, Inc., when it too joined American Home in 1944. He was appointed a vice-president of the parent company in 1943. When the food division was established in 1944 as American Home Foods, Inc., Mr. Roden was made president of the new company. Plants are located in Rochester and Burt, N. Y.; Morris Plains, N. J.; Pittsburgh, Pa.; and San Jose, Calif.

Cheplin Labs. Now Bristol Labs

Bristol Laboratories, Inc., is the new name of the Bristol-Myers subsidiary, Cheplin Laboratories Inc., Syracuse, N. Y. The company, which was founded in 1923 and bought by Bristol-Myers in 1943, has the following officers: Chairman of the Board, Henry P. Bristol; president and treasurer, Philip C. Sayres; vice-president and general manager, C. A. Williard; vice-president and secretary, Lee H. Bristol; vice-president, William M. Bristol, Jr.; vice-president and assistant secretary, Leonard S. Fulmer; vice-president, Neulon Deahl; comptroller, Walter H. Kamp.

Baker Advances Feuchter

G. B. Hafer, general sales manager of the J. T. Baker Chemical Co., Phillipsburg, N. J., has announced that Harold W. Feuchter will assume new duties as division sales manager of laboratory chemicals. He will have charge of mer-

HAROLD W. FEUCHTER

chandising and distribution of the C. P. Baker's Analyzed line of laboratory chemicals. Mr. Feuchter has been with Baker for eleven years and for the last five years managed the company's New York office.

WARREN F. SCHUMACHER

Warren F. Schumacher succeeds Mr. Feuchter as manager of the New York office. Mr. Schumacher was in the New York office for four years before taking over the company's New Jersey territory in 1927.

Fisher Gaffin who has been selling in the metropolitan New York area for the past seven years, now takes over the New Jersey territory.

Norwich Public Relations

Melvin C. Eaton, vice-president and general manager of the Norwich Pharmacal Co. has announced an expanded personnel and public relations program for all branches of the company. Norman J. Burd has been named personnel and public relations director.

Baker Resigns from Calco

W. B. Baker resigned his position as Director of Technical Service, Pharmaceutical Department, Calco Chemical Division, American Cyanamid Co. effective August 15.

Mr. Baker will leave for South America to become associated with the Uribe Laboratories, whose home office and main plant are in Medellin, Columbia. He will be technical director and production manager of the company's three plants located in Medellin, Cali and Barranquilla.

Dr. Kreider Joins Merrell

Dr. Henry Kreider has joined the analytical and control department of the Wm. S. Merrell Co., Cincinnati. He received his Ph.D. from Ohio State some years ago and was recently employed by the Mead Johnson Co.

Dr. Irvin Gibby who recently obtained his Ph.D. from the University of Cincinnati has joined Merrell's bacteriology department and Dr. Stanley M. Parmerter has joined the organic chemistry department. Dr. Parmerter recently obtained his Ph.D. from the University of Illinois and has held the Merrell post-doctorate fellowship at the University of Illinois for several years.

Stucker Rejoins Schering

Perry L. Stucker, after nearly three years in the Army, has been made southern district supervisor for the Schering Corp. He is a graduate of Valparaiso University College of Pharmacy and joined Schering in 1941 as assistant sales manager, leaving the following year to enter the army.

Allan A. Miller has been appointed metropolitan district supervisor for the company. He was been covering Manhattan and Brooklyn territories for Schering since 1942.

Col. Weicker Welcomed Back to Squibb

Col. Lowell Weicker, president of E. R. Squibb & Sons on leave to the United States Army Air Forces, was given a warm welcome home from his tour of duty in the European Theater of Operations by nearly 300 of his Squibb associates at a dinner at the Waldorf-Astoria, August 7. The occasion was the annual sales dinner for the eastern and metropolitan divisions of Squibb.

Col. Weicker was introduced by Carleton H. Palmer, chairman of the board of Squibb, and gave an interesting account of his experiences.

Standard Labs. Appoints Paaske and Danvers

Two new executive appointments are announced by M. M. Ricketts, vice-president and general sales manager of Standard Laboratories, William R. Warner subsidiary. T. H.

T. H. PAASKE

Paaske, for the past three years sales manager of the S.M.A. Corp., and previously with the Borden Company for 12 years, has been appointed divisional sales manager of the St. Louis division, and R. S. Danvers, formerly

R. S. DANVERS

a copy writer and account executive with Noyes and Sproul, advertising agency, has been made assistant to Glenn Holder, advertising and sales promotion manager of Standard Laborato res.

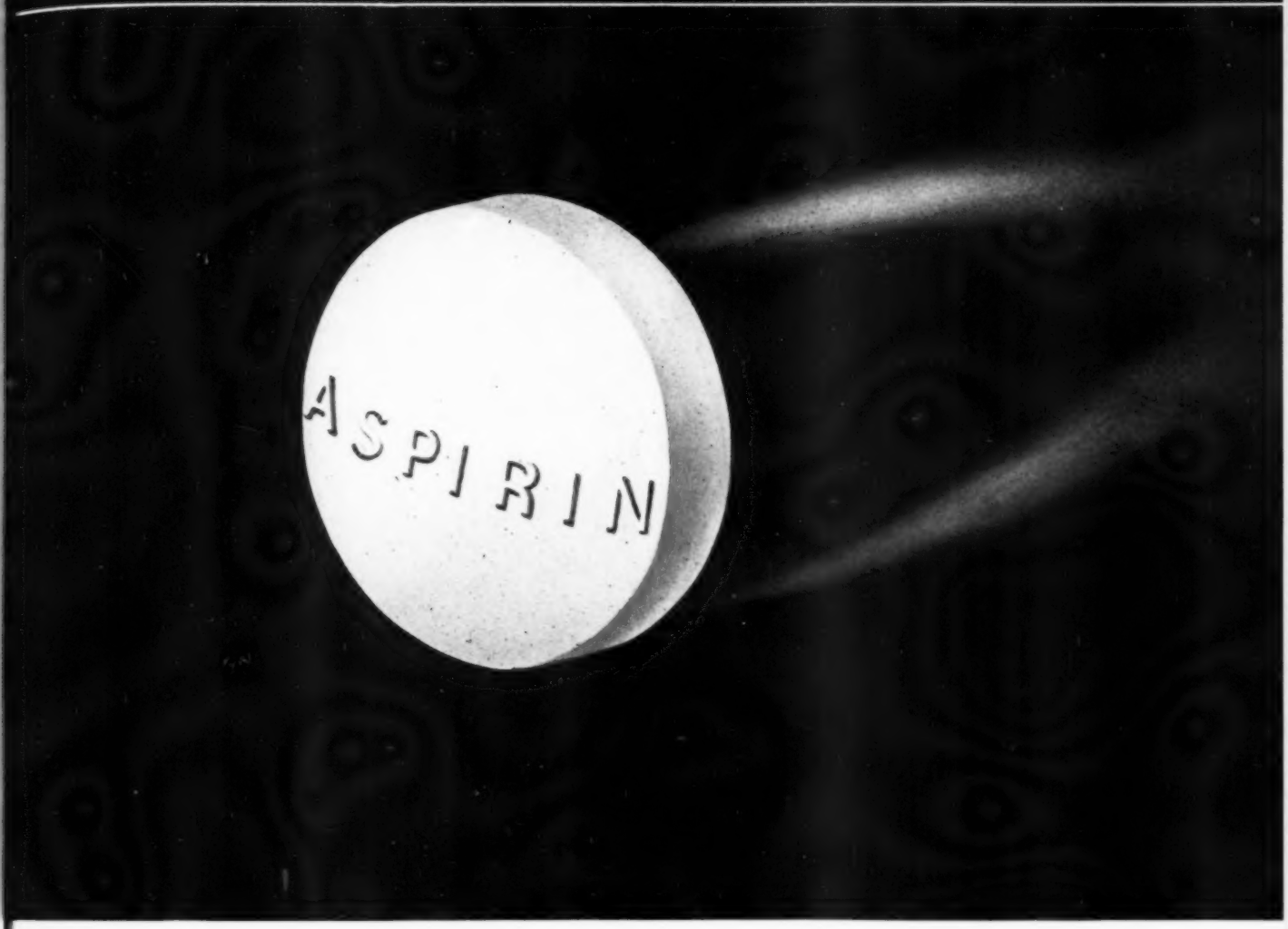
Fourteen proprietary drug and cosmetic companies are being merged into Standard Laboratories effective October 1.

Chilson Moves Offices

The New York offices of Francis Chilson, industrial consultant, have been moved to 101 Park Avenue. Research offices are in the Harwood Building, Scarsdale, N. Y. and field offices in Chattanooga and Pittsburgh.

Mr. Chilson is production consultant of the DRUG AND COSMETIC INDUSTRY.

It takes all three to make an Aspirin tablet!



- *A fine chemical of measured purity*
- *Your technical skill in manufacturing*
- *Rigid laboratory control in your plant*

Millions of aspirin tablets like this one move off druggists' shelves every year – to help prevent colds, to relieve millions of headaches and to deaden pain.

Small, unimpressive-looking, this tablet is nevertheless made with infinite care by a number of leading pharmaceutical houses.

And in that making, are these three vitally important factors:

– selection of the most uniform quality acetylsalicylic acid, which is the foundation of an aspirin tablet.

– scientific compounding and processing of all the ingredients into a quality finished product.

– rigid laboratory control, including testing of all raw materials, and constant testing of the product as manufactured.

The first of these factors is, naturally, one of great concern to Baker.

And it is equally important to the aspirin tablet manufacturer.

Choosing a fine chemical with purity to the decimal – such as Baker's acetylsalicylic acid U.S.P.– makes the manufacturer's job easier all the way.

For more than 40 years, Baker has built its chemical business on measured purity. That is why leading pharmaceutical and drug companies choose Baker as a source of supply. They know that Baker's purity by the ton in fine chemicals is the result of uniq control methods and ceaseless testing.

When you specify any Baker fine chemic you specify quality *at the beginning* and y get it. Both your compounding and yo laboratory control are simplified. You ha quality insurance for your products.

J. T. Baker Chemical Co., *Executive Offic and Plant:* Phillipsburg, N. J.; *Branch Offic* New York, Philadelphia and Chicago

Baker's

FINE CHEMICALS

Jasmaría

AN EXCEPTIONALLY FINE SYNTHETIC JASMIN

Our laboratories have just perfected this unusual and amazingly accurate reproduction of Jasmin Absolute. A 24 hour blotter test will completely convince you that Jasmaría has far more strength and stability than the natural essence. Best of all — Jasmaría imparts all the beauty and fragrance of the Jasmin flower at a mere fraction of the cost of the natural oil. You can use Jasmaría either to completely replace Jasmin Absolute or to stretch your stocks of the natural product.

We will be glad to send you further information as well as working samples for your own experiments. Write us today.

Aromatic Products, Inc.

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Atlanta • Chicago • Dallas • Pittsburgh • Memphis

San Francisco • Los Angeles

Hyams Joins Boston Drug & Chem.

Ben Hyams has been appointed chief chemist and production manager of Boston Drug & Chemical Co., Inc., and its toiletries division.

Mr. Hyams studied at Pratt Institute and Polytechnic Institute of Brooklyn where he received his B.S. and M.S. degrees in chemistry. He served for several years as a member of the faculty of the department of chemistry at Brooklyn Polytechnic Institute.

Prior to joining the Boston firm, he was associated with the Lucident Co., Paris Cosmetics, and Labratest, Inc.

Ortho Products Changes Name

Ortho Products, Inc., Linden, N. J. has changed its name to Ortho Pharmaceutical Corporation. The change does not involve any change in company management or policies.

Dow Advances Williams and Ballman

Leland I. Doan, vice-president and director of sales of the Dow Chemical Co., has announced the appointment of Donald Williams as general sales manager and Donald K. Ballman as assistant general sales manager.

Mr. Williams, who has been assistant general sales manager since 1933, joined the Dow sales staff in 1924. He was graduated from Pennsylvania State College in 1916, and before going to Dow was with the Philadelphia Wool & Textile Association and with the extension department of Michigan State College.

Mr. Ballman was graduated from Indiana University in 1929 and received his master's degree in chemistry there in 1934. He became associated with Dow in 1935.

Mr. Doan now assumes the position of director of sales. He has been general sales manager for the past sixteen years. He has been a vice-president since 1936 and secretary since 1941.

Ciba Advances Burgher and Storm

J. J. Brodbeck, president of Ciba Pharmaceutical Products, Inc., Summit, N. J., has announced the election of Vincent A. Burgher, vice-president in charge of sales, as president and director of Ciba States Export Corp., and the election of Norman F. Storm, vice-president in charge of production, as president and director of Goshen Laboratories, Inc., Goshen, N. Y., distributor of the Ciba line of veterinary specialties.

Dunbar Returns from London

Guy S. Dunbar, president and general manager of Burroughs Wellcome & Company, New York, recently returned from a two months' trip to London where he attended a conference of the executives of the Wellcome Foundation planning for future development.

Van Itallie Joins Wyeth

Philip H. Van Itallie has joined Wyeth Incorporated as technical editor, according to H. S. Howard, president. Mr. Van Itallie, who for the past 13 years was technical editor of Topics Publishing Co., will edit and assist in writing and preparation of technical literature distributed to pharmacists and doctors. He will also serve as technical copy advisor to the advertising department.

Legion of Merit to Schwartz

Frederic N. Schwartz, assistant to the president of Bristol Laboratories, has been awarded the Legion of Merit for his services in organizing and conducting the blood program of the Armed Forces. Mr. Schwartz, who rose to the rank of Lieutenant Colonel with the official title of Chief of Operations, Transfusion, U. S. Army, was released to inactive status early in July of this year, received formal presentation of his award in Boston on August 10.

Bamberger Decorated

Lawrence Bamberger, employed at the Brooklyn factory of George Lueders & Co. before entering the armed forces, has been awarded the Soldier's Medal for heroic achievement on January 16, 1945 near St. Dizier, France. According to the citation, "observing that an aircraft had crashed nearby, Private First Class Bamberger and two comrades rushed to the scene and assisted in removing the pilot and navigator."

Col. Ascher Gets Bronze Star

Lieut. Col. Bordner F. Ascher, who in civilian life heads the sales department of George A. Breon & Co., Kansas City, Mo., has been awarded the Bronze Star Medal, according to an announcement by Eighth Army Headquarters on Leyte.

Rice Joins McKesson

G. Webster Rice has been appointed assistant manager of the industrial chemicals division of McKesson & Robbins, Inc. He will make his headquarters at the company's New York office.

Mr. Rice has been manager of the Philadelphia offices of J. T. Baker & Co. for the past fourteen years.

Smith Heads Monsanto Foreign Dept.

Arnold H. Smith has been appointed director of the foreign department of Monsanto Chemical Company effective October 1, when Herbert M. Hodges reaches the age of retirement. Mr. Smith will be succeeded as assistant director of the foreign department by Marshall E. Young, formerly general export manager.

Doraldina Sold

Doraldina, Inc. has been acquired by Trade Laboratories, Newark, N. J.

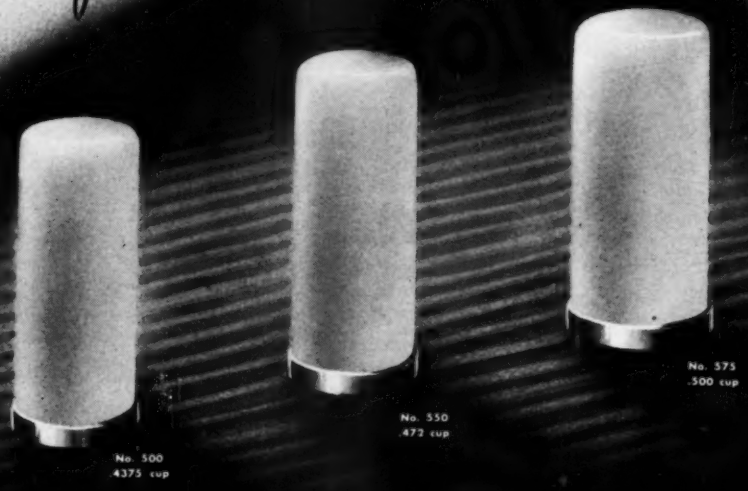
LELAND I. DOAN

DONALD WILLIAMS

DONALD K. BALLMAN

Bright, polished, gleaming BRASS

SWIVEL LIPSTICK CONTAINERS



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Reamer Advanced by Warner

Richard S. Reamer has been appointed general plant manager of William R. Warner & Co., St. Louis Division, according to Ralph W. Henderson, vice-president in charge of plant operations. Mr. Reamer has been with Warner for many years being department manager of various production departments, superintendent, plant manager, and now general plant manager of the St. Louis Division.

RICHARD S. REAMER

A.D.S. Appoints Clinton and Michaels

E. R. Clinton has been appointed vice-president and Irving Michaels has been named sales manager of American Druggists Syndicate, Inc., a division of the Universal Laboratories, Long Island City, N. Y.

Mr. Clinton was formerly vice-president of the National Drug Co., Philadelphia. Mr. Michaels has been associated with the American Druggists Syndicate for sixteen years and was previously credit manager.

Bristol-Myers Names McMillan Secretary

George S. McMillan has been elected secretary of Bristol-Myers Co., New York. He has been director of public relations of the company for the past year and a half.

New Brazil Regulations

The Public Health Department of Brazil has issued various regulations with respect to pharmaceuticals, chemicals, and toilet products which make it necessary for a license to be obtained in Brazil by all establishments situated abroad as well as domestic manufacturers. Information about them may be obtained from John H. Graham, 30 Broad Street, New York.

Dr. Binkley Joins Bristol Labs.

Dr. S. B. Binkley has been appointed head of chemical research of Bristol Laboratories Inc. He is a native of Illinois and was graduated from Eureka College with the degree of B.S. He did graduate study at the University of Nebraska where he received his M.S. and Ph.D.

Dr. Binkley was for several years associated with a leading midwestern pharmaceutical house as fellow and senior research chemist. In 1939 he went to the School of Medicine at St. Louis University where he taught for two years, returning to his business affiliation in 1941.

Harris Joins Warner

William R. Warner & Co., Inc., manufacturing pharmacists, has announced the appointment of Jerome Harris as creative copy assistant in its advertising department. Mr. Harris was formerly connected with the United States Public Health Service in the capacity of information specialist under the Office of the Surgeon General.

Woelffing Joins Breon

Fred C. Woelffing has joined George A. Breon & Company, Kansas City, Mo., as assistant treasurer. Prior to his present connection Mr. Woelffing was active in the financial divisions of American Radiator Co., Montgomery Ward, and Chevrolet Division General Motors.

FRED C. WOELFFING

Stearns to Expand in Australia

Expansion of the Australian operations of the Frederick Stearns & Co. Division, Sterling Drug Inc., is planned by Noel F. Leggatt, general manager of the Australian branch upon his return to Sydney early in September after a two-month visit in this country.

Young Advanced by U. S. I.

Bracebridge H. Young, secretary of U. S. Industrial Chemicals, Inc., has been elected vice-president and secretary of the company, according to Glenn L. Haskell, U. S. I. president. Mr. Young has been with U. S. I. for twenty years, becoming head of Order Department in 1930, and after handling various tax, personnel and contract matters, being elected secretary in 1937.

BRACEBRIDGE H. YOUNG

Remus to Open in Chicago

Edward Remus & Co., Inc., New York, is making plans for the early establishment of a Chicago office and warehouse under the management of Henry H. Pine. The company already has a branch in Kansas City, Mo.

Wrapade Buys Brooklyn Plant

Wrapade Machine Co. has acquired a new plant in Brooklyn, N. Y. to care for its expanding line of bench and power crimpers, sheet-gluers, and hand bag making machines. The company, whose executive and sales offices are located in Newark, N. J., also plans to introduce its new straight line, fully automatic continuous sealer to replace the rotary type crimper heat sealing machine which has been discontinued.

Major Breckenridge Joins Revlon

After five years of active duty in the U.S. Army, Robert P. Breckenridge has joined Revlon Products Corp., New York, as director of merchandising. Major Breckenridge returned from Europe in April after three years as engineer officer in General Eisenhower's invasion staff. Before going to Washington in 1940 to organize the camouflage division of the War Department, he had been for eight years advertising and assistant sales manager of Sweet-Orr & Co., Inc., New York.

Baker Research Program

J. T. Baker Chemical Co., Phillipsburg, N. J., and Battelle Memorial Institute, Columbus, Ohio, have completed contract arrangements for an extensive research program on the development of new synthetic chemicals. The research will deal primarily with the organic syntheses pertaining to new solvents, industrial intermediates and fine chemicals.

Proot Heads Maxime, Ltd.

Dr. Gaston Proot, for nearly ten years chief chemist of Cyclax, Ltd., of London, has been appointed managing director of Maxime, Ltd., of London.

GASTON PROOT

Dr. Proot, who was born in Brussels 52 years ago, is also a director of Charmex, Ltd. and technical adviser of Estelle Gainsborough, Ltd., of Bond St., London, and Institut Bejane, of Paris.

Grove Personnel Changes

V. R. Burtch, formerly in charge of the Grove vitamin operations has been named general sales manager of Grove Laboratories, Inc., St. Louis. H. B. Frost who has been assistant general sales manager for several years now heads the proprietary division and V. E. Stafford has been made sales manager of the vitamin division. E. L. Lavender, former assistant to the sales manager of the vitamin division, is now assistant to the general sales manager.

Crutchfield Joins Bristol Labs.

Bristol Laboratories, Inc., Syracuse, N. Y., has appointed W. E. Crutchfield, Jr., as assistant to the medical director.

Prior to his present appointment, Mr. Crutchfield headed the department of toxicological research of a leading pharmaceutical company.

Bobst Heads Cancer Society

Elmer H. Bobst, formerly of Hoffmann-LaRoche, has been elected chairman of the Executive Committee of the American Cancer Society.

Metal Organics Formed

Metal Organics, a new corporation, has been founded jointly by the Metalsalts Corp., Paterson, N. J., and Edwal Laboratories, Chicago, for the production of phenyl-mercury salts and other metallo-organic compounds.

Dr. Babcock Heads Penicillin Plant

The penicillin manufacturing unit of Lederle Laboratories, Pearl River, N. Y., was recently placed under the direction of Dr. Sidney H. Babcock, Jr., head of the Chemical Process Development and Manufacturing Division. This move brings under the direction of one man all chemical manufacturing operations in the plant including riboflavin, calcium pantothenate, and all forms of penicillin. Dr. Babcock joined Lederle as a chemist in the Chemical Research Division in February 1943.

Glickman Wax Sales Agent

Charles S. Glickman, 3862 Flatlands Ave., Brooklyn, N. Y., has been appointed sales agent in this country for Utah Wax produced by the Ozokerite Mining Company.

Arista Oil Represents Aarsaether

Arista Oil Products Company, New York, has been appointed general representative in the United States for the Norwegian cod liver oil exporter, Broeder Aarsaether, Aalesund, which company has come through the war with most of their plants intact. The Norwegian government approved immediate shipment for September delivery large quantities of medicinal cod liver oil packed in 30 gallon tin-lined wood barrels, and limited quantities of oil of higher potencies such as 200 A, 200 D, and 2500 A, 250 D.

Coronet and Sno-Flake Move

Coronet, Inc., and Sno-Flake Products Co. have moved to their plant at 2485 Beaufait Ave., Detroit 7.

Egyptian Opens N. Y. Office

Abdel Halim Badr El-Din, Egyptian exporter and importer since 1924, with main offices in Cairo, has opened a New York office under the management of Bernard Golden.

Monsanto and the Atom Bomb

Monsanto Chemical Co. and many of its scientists have been closely identified with the development of the atomic bomb since the inception of the project. Monsanto's principal contribution to the program was research, process development, design of plant and subsequent production of some of the material. Later the company assumed responsibility for the operation of a large part of the Oak Ridge, Tenn., project.

Bowie Joins Bristol-Myers

Robert J. Bowie has been appointed export manager of the European division of Bristol-Myers Co., New York. He is

ROBERT J. BOWIE

a native of Bath, England and was educated in Paris and later graduated from King Edward's School in Bath. He joins Bristol-Myers with a background of over twenty years' experience in different phases of export activities. He will make his headquarters at the London office of Bristol-Myers.

Wilckens Labs. Expands

Wilckens Chemical & Cosmetic Laboratories, Toronto, has more than doubled its space. A plant has been leased in Oakville, Ont., and the main part of the company's manufacturing will be done there. In addition the rouge manufacturing and executive offices will be kept in Toronto at 58 Stewart St. It is also planned to open a downtown sales office in Toronto.

W. Lloyd Linton has been engaged as chief chemist and production manager. He will be located at the Oakville plant.

L. E. Kachurin to Annapolis

Leon Edward Kachurin, son of Philip Kachurin, president of the American Pharmaceutical Co., New York, has been admitted to the U. S. Naval Academy where he is now a midshipman.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

U.S.I. CHEMICAL NEWS

September ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1945

New Synthetics May Have Important Therapeutic Uses

A patented, but as yet unused, process of synthesizing quinoline derivatives, according to the inventor, may yield new pharmaceuticals of great value.

Among these new synthetics are 2-(4-methoxy-phenyl) quinoline-6-sulfofnic acid, and 2-phenyl quinoline-6-sulfonic acid; compounds in the same family as 2-phenyl quinoline-4-carboxylic acid (sold as a pharmaceutical under the names of Atophan or Cinchophene). Further investigation of possibilities of the new compounds appears to be justified.

Information concerning this patent may be obtained by writing to U. S. Industrial Chemicals, Inc.

Lecithin Use Broadens As Cost Comes Down

Because yield of lecithin from soy-bean phospholipids is materially increased by the ethanol-extraction method of preparation this food-processing anti-oxidant and emulsifying agent is now available in cheaper commercial forms. As a result, it is being applied to uses from which it was formerly barred by excessive cost.

Among these newer applications are its use in casein paints, plant sprays, creosote emulsions, and softening and wetting agents. In the synthetic rubber industry, it is speeding up vulcanizing and imparting to many synthetic rubber products properties previously found only in natural rubber.

Cotton Seed Yields Lecithin

A new source of lecithin is cotton seed. Commercially practicable amounts of lecithin are extracted from it by first separating the phospholipids with acetone, then precipitating the lecithin with ethyl-ether in an excess of acetone.

Montan Wax Alternates Made from Ester Gums

Montan wax, an imported material used in the manufacture of electrical insulation, phonograph records, sizing agents, hardeners, linings, coatings and other products, may be replaced by a new synthetic wax-like composition made entirely from domestic raw materials. The synthetic waxes possess most of the properties of natural montan wax, and, unlike natural montan, do not have to be bleached as they are light in color.

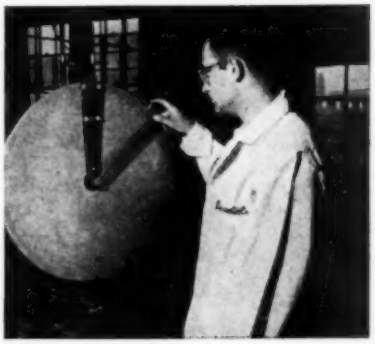
The basic ingredients are a high percentage of ester gum and hydrogenated castor oil. To these are added petroleum wax, petroleum asphalt, or both; or a coal-tar solvent-soluble and gasoline-insoluble resin remaining after solvent refining of wood resin.

Variation of these additives in kind and proportion imparts to the synthetic wax different properties of hardness, moisture-resistance, viscosity, and melting point, thus adapting these new, wax-like compositions to a wide range of applications.

Modern Resin Research Hinges On Wide Range of Physical Tests

U.S.I. Reveals Additional Instruments Used for High-Precision Testing at Its Newark Laboratories

The widespread interest in a recent CHEMICAL NEWS article on instruments has prompted U.S.I. to picture here some of the other instruments which are now working overtime in the company's development of new resins to solve specific wartime problems and in fundamental research aimed toward new and unusual postwar resin products. Although few other fields of chemical research and manufacture depends so heavily on physical testing, these instruments should be of general interest, as well as suggestive of possible adaptations to fields other than resins.



Strength of plastics and plywoods is tested on this accurate impact tester. The weighted arm drops from a pre-set height, breaks the sample at the bottom of its stroke and coasts on up a scale at the left. The height of the swing shows inversely, the amount of energy consumed in breaking the sample, and thus its impact strength.

Synthetic weather is made in this weatherometer which produces the equivalent of months of exposure in a matter of hours. Samples of coatings made from U.S.I. resins are subjected to sizzling sunshine, drenching rains, quick temperature changes—all the conditions they will meet in service.

Purer Vitamins Obtained by New Ethanol Process

More potent vitamins A and D, a New Jersey inventor claims, can be produced by the following process: a concentrate of vitamin A and D, extracted from fish or other marine oil is dissolved in an aliphatic hydrocarbon solvent, and vitamin A is extracted therefrom with an aqueous solution of ethanol. The water content of the ethanol solution is adjusted so that vitamin A will dissolve, but little or no vitamin D will be taken up by the solution.

To separate vitamin D from the solvent-extracted mass, it is esterified, and the esterified vitamin D, now soluble, is removed by extraction with an aqueous solution of ethanol. The water content of the ethanol solutions is adjusted so that the vitamin D esters will be dissolved to the exclusion of any hydrocarbons present.

This Reflectometer electronically measures gloss and color of coatings before, after and during exposure—with great precision. The speed with which measurements are made help U.S.I. chemists get quick answers as to the initial color and gloss and gloss retention of resins.

3 Corporate Changes Announced by U.S.I.

Mr. Glenn L. Haskell, President of U. S. Industrial Chemicals, Inc., announces the election, at a recent meeting of the Board of Directors, of Francis T. Dodge, President of Dodge & Olcott, Inc., as a Director, and Bracebridge H. Young, Secretary, as Vice President and Secretary, and the appointment of Thomas H. Casson as Controller.

Uniformly applied coatings are essential to consistent results in studying those coatings. This dip coater, operated by an accurate Telechron motor, dips panels into the coating and withdraws them at a closely controlled rate.

ADVERTISEMENT—*This entire page is a paid advertisement.*

September ★ **U.S.I. CHEMICAL NEWS** ★ 1945

Improved Wetting Agents Produced With Alcohols

A newly patented process has as its objective increased production of purer sulphated fatty esters, which are used as wetting, penetrating, and emulsifying agents in the textile industry. The end products are said to be clear, oily liquids that produce clear aqueous solutions and have remarkable foaming properties even in highly attenuated dilutions.

The new process prepares these esters in two steps. The first is to produce a low molecular weight alkyl fatty ester by reacting a mono- or polyhydric alcohol, such as ethanol or butanol, with an unsaturated or hydroxy fatty acid in the presence of a catalyst such as alkylated napthalene sulphonic acid. (In place of the lower alcohols, their esters, such as ethyl acetate, or ethyl formate may be used.)

The final sulphated fatty ester is produced by adding a complex alcohol or ester having ether, ketone or amino groups in its molecule. This mixture is treated with a sulphating agent, and after the reaction is complete, the resulting product is washed with a solution of sodium chloride and neutralized.

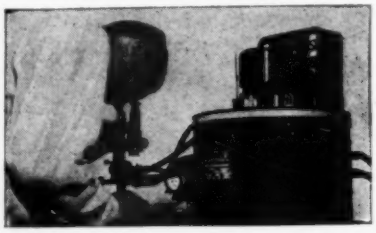
Pantothenic Acid Is Subject of New Patents

One new patent claims to reduce the cost of beta-alanine, intermediate used in the production of pantothenic acid. The new method precipitates beta-alanine from a solution of beta-alanine acid addition salt in ethanol by adding an excess of diethanolamine, ethanolamine and N-morpholinoethanol, or other base having its ionization constant between 4×10^{-8} and 4×10^{-4}.

A second invention covers the production of uniform pantothenic compounds in crystalline form by reacting butyrolactones with beta-alanine. In one example, beta-alanine is dissolved in an aqueous sodium hydroxide solution and d-alpha-acetoxy-beta-beta-dimethyl-gamma-butyrolactone is added. The reaction product is freed of unreacted beta-alanine and acetone is added. The white powder which crystallizes is separated by decanting the mother liquor, and drying the precipitate under high vacuum. The colorless needles thus produced are sodium-l-pantothenate.

Modern Resin Research

(Continued from preceding page)



The Refractive-index measurements of liquids are indispensible today in the study and identification of resins and plastics. This precision instrument is kept in an air-conditioned room at U.S.I.'s laboratory.

Flexibility measurements are made by bending a coated metal sheet over a tapered mandrel. The smaller the diameter at which cracking occurs, the better the flexibility of the finish.

This electronic titrimeter gives U.S.I. chemists quick, accurate determinations of acid numbers and oxidation reduction potentials without dependence on color interpretation by the operator.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

Corrosion-proofing of metal parts, between production operations, is said to be effected by use of a new water-soluble rust inhibitor that forms an invisible dry film. **(No. 973)**

USI

A plastic packaging film, transparent, tough, elastic and tear-resistant, is described in a new 20 page catalog, with many color illustrations showing applications. Said to be odorless, tasteless and insoluble in water and ordinary solvents, it should find wide application. **(No. 974)**

USI

Improved curing of concrete is said to result from the use of a new membrane-type coating, applied to wet concrete to assure proper hydration. Product is reported not to run at high temperatures, nor to wash off when it rains. **(No. 975)**

USI

Faster analysis of gases having absorption bands in the infra-red section of the spectrum is promised by the manufacturer of a photometer-type gas analyzer. Some gas concentrations as attenuated as one part in 10,000 can be detected. **(No. 976)**

USI

Protection of galvanized surfaces against white corrosion is the purpose of two new liquid finishes. They are applied by dip to parts, complete assemblies or sheet. Treated parts are reported to have shown no corrosion in 236-hr salt-spray tests. **(No. 977)**

USI

A stripper for baked japans, as well as lacquers and enamels, until recently available only for war work, is again on the market for civilian use. **(No. 978)**

USI

Four alloys are described as being resistant to diverse corrosive agents. In this group are alloys having high resistance to hydrochloric acid, sulfuric acid (in all concentrations) and corrosive chlorine compounds. Temperature characteristics and workability are said to be good. **(No. 979)**

USI

To render fabrics water-repellent, a new treatment is offered for dip, brush or spray application. It is said that the new treatment does not affect color or finish of fabric and that it prevents mildew. **(No. 980)**

USI

Testing water hardness, to determine proper concentration of polyphosphates for treatment, is said to be done in minutes instead of hours with a new, conveniently packed test set. **(No. 981)**

USI

Improved molded plastic production is promised by the manufacturer of a new, water-soluble material for application to mold surfaces. It is said to prevent sticking and not to discolor the molded plastic part. **(No. 982)**

USI

To stop condensation drip, a manufacturer offers a new coating which can be applied like plaster to pipes and tanks. Claims use of his product can increase refrigeration efficiency up to 25% through evaporative effect. **(No. 983)**

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Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof, C.P. 96%, Absolute
*Super Pyro Anti-freeze
*Solox Proprietary Solvent
***ANSOLS**
Ansol M
Ansol PR

ACETIC ESTERS
Amyl Acetate
Butyl Acetate
Ethyl Acetate
OXALIC ESTERS
Dibutyl Oxalate
Diethyl Oxalate
PHTHALIC ESTERS
Dibutyl Phthalate
Diethyl Phthalate
OTHER ESTERS
*Diatol
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate
ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.
FEED CONCENTRATES
*Curbay B-G
*Curbay Special Liquid
*Vacatone 40

ACETONE
Chemically Pure
RESINS
S&W Ester Gums—all types
S&W Coumarone-Indene, fused & solution
S&W *Amberol—all types and allied materials
S&W *Arochem—para-cumarics
S&W *Arochem—modified types
S&W Natural Resins—all standard grades
OTHER PRODUCTS
Collodions
Ethylene Glycol
Nitrocellulose Solutions
Ethylene
*Indalone
Urethan

*Registered Trade Mark

Smith-Dorsey to Build New Plant

The Smith-Dorsey Company, Lincoln, Neb., is to erect a large new plant covering a full quarter square block. Contracts for two stories of what will eventually be a five story building are to be let immediately, and the others in the near future. The exterior facing will be cream-colored terra cotta with base and entry facade in dark brown granite. Steel fenestration window arrangement will provide maximum daylight penetration and this will be augmented by fluorescent lighting. The building will be completely air-conditioned for all seasons and the general offices will be sound proofed. Sterilamps, electronic dust precipitators and mechanical washers, filters, and fillers of the latest type will be installed in ampul department. Laboratories will include bacteriological, pharmacological, research, and control. Space is also provided for a cafeteria, recreation and assembly rooms.

The company plans to open branches in Dallas and Forth Worth this Fall.

Gorchoff and Bryant Form Company

N. T. Gorchoff, chief chemist, and M. Marvin Bryant Jr., buyer, have resigned these positions with Chap-Stick Co., Morton Manufacturing Co., and affiliated companies, to operate a new company which they have formed under the name of Bubble-O-Products, Lynchburg, Va. The new company manufactures cosmetics and chemical specialties.

Horace Burrough III

Horace Burrough III, assistant general manager of sales for Monsanto Chemical Co.'s Merrimac Division, died of a heart attack August 8 at his home in Swampscott, Mass. He was forty-nine years old.

A native of Brunswick, Me., he attended Johns Hopkins University and in 1919 received his ensign's commission at the U. S. Naval Academy. He remained in the navy until 1923. He entered Monsanto's service in 1924 working in the engineering and manufacturing department until 1928. From 1928 to 1932 he was an assistant in the sales department. He then became assistant sales manager and in 1935 sales manager of heavy chemicals and alcohol. His promotion to the position of assistant general manager of sales of Monsanto Chemical Company's Merrimac Division followed in 1944.

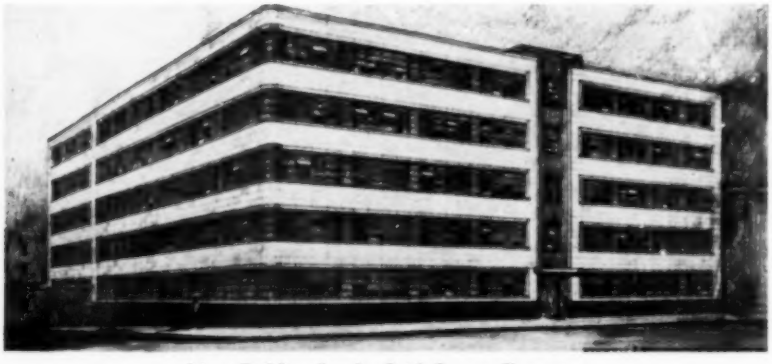
William H. Rorer, Sr.

William H. Rorer, Sr. president of William H. Rorer, Inc., Philadelphia, and father of Gerald Rorer, president of the American Pharmaceutical Manufacturers Association, died August 25 at the age of seventy-one.

Mr. Rorer was born in West Chester, Pa. and attended the Philadelphia College of Pharmacy. He started his business career as a retail druggist in Colorado Springs in 1892. In 1896 he became associated with John Wyeth & Bro., Inc., Philadelphia, staying until 1910 when he formed his own business.

Henry Elliott Mallinckrodt

Henry Elliott Mallinckrodt, son of Edward Mallinckrodt, chairman of the board of Mallinckrodt Chemical Works, St. Louis, recently died at the age of 31 of a heart disorder. Graduated from Harvard University, he was engaged in the civilian aviation business in New York. Surviving are his parents, his wife, and a brother, George, of San Diego, Calif.



New Building for the Smith-Dorsey Company

James M. Penland

James Marr Penland, president of the Southwestern Drug Corp., Dallas, died suddenly August 24. He was sixty-five.

He was born in North Carolina and his family moved to Texas when he was eleven. After attending the Whitewright public schools and Grayson College he became a retail drug clerk in Whitewright, later becoming a partner in another Whitewright drugstore. He sold that business to become a salesman for the Texas Drug Co. of Dallas. He next represented Meyer Brothers Drug Co., St. Louis, selling out of Waco.

In 1911 Mr. Penland organized the Waco Drug Co. The Waco Drug Co. was one of the seven wholesale concerns consolidated as the Southwestern Drug Corp. in 1929. He was president of the company from its inception.

Mr. Penland served on the board of control of the National Wholesale Druggists Association from 1925 to 1928 and in 1930 served as president of the association. He was a former president of the Dallas Wholesalers and Manufacturers Association, a former trustee of Baylor University and a former director of the Druggists Supply Corp. of New York.

Arthur B. Hull

Arthur B. Hull, sales engineer of the Package Machinery Co., Springfield, Mass., with headquarters in New York, died September 9 at the New York Hospital after a long illness. He was sixty-four years old.

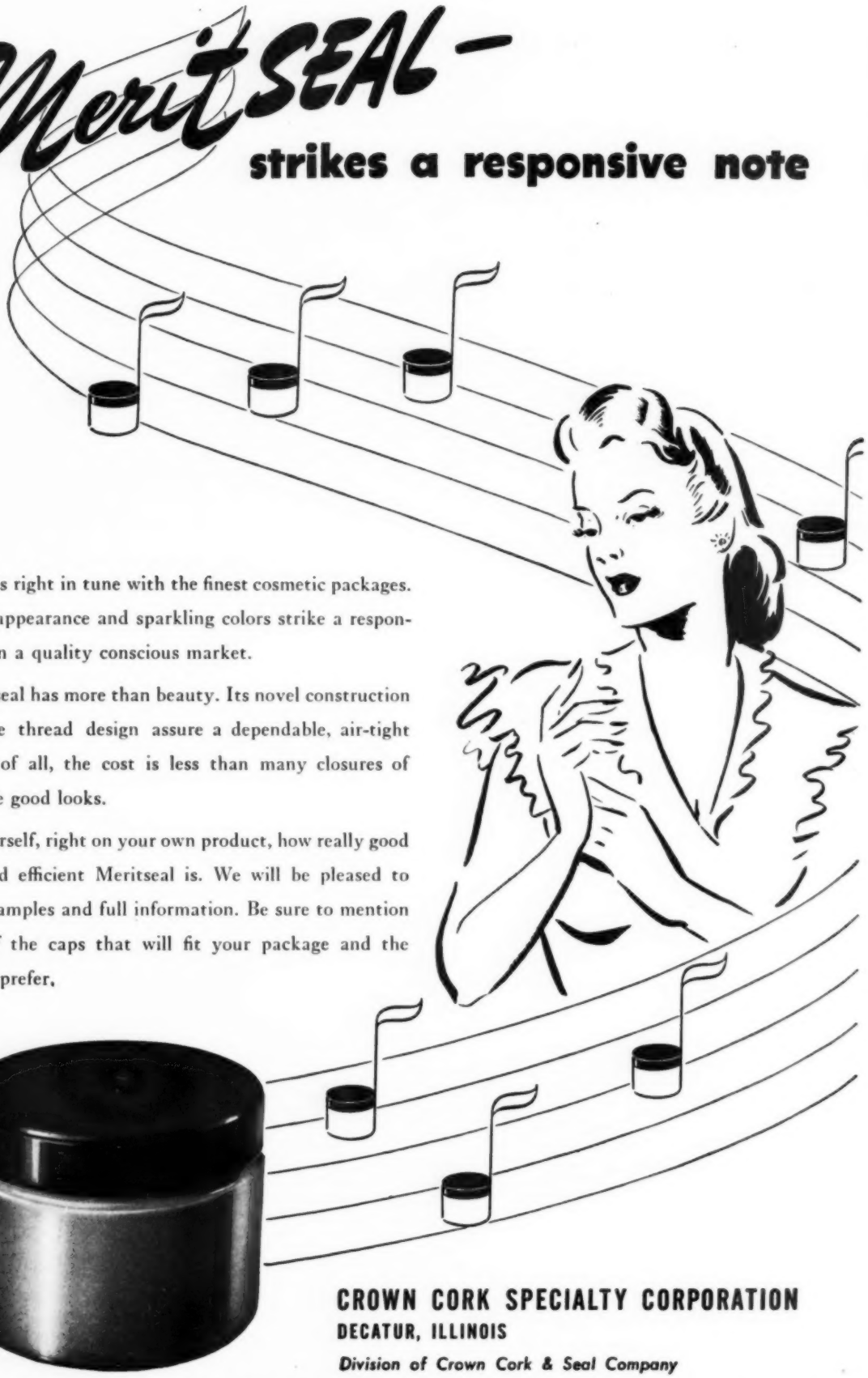
Mr. Hull was graduated from the Columbia University School of Engineering in 1903 and before joining Package Machinery Co. in 1927 was with the American Trading Corp., New York, traveling in the Orient.

J. Bennett Turner

J. Bennett Turner, chairman of the executive committee of Norwich Pharmacal Co., died at his home in Norwich, N. Y., August 19. He suffered a heart attack the previous day and was hardly conscious from that time until his death.

Mr. Turner had been a director of the company since 1910 and from 1933 to 1938 he served as chairman of the board. Since then he has been chairman of the executive committee. From 1917 to 1938 he was president of the National Bank & Trust Co. of Norwich and since 1938 has been chairman of the board. He was also president of the Norwich Wire Works and the Bennett, Ireland Company, both of Norwich.

Meritseal—

strikes a responsive note

Meritseal is right in tune with the finest cosmetic packages. Its smart appearance and sparkling colors strike a responsive note in a quality conscious market.

But Meritseal has more than beauty. Its novel construction and unique thread design assure a dependable, air-tight seal. Best of all, the cost is less than many closures of comparable good looks.

See for yourself, right on your own product, how really good looking and efficient Meritseal is. We will be pleased to send you samples and full information. Be sure to mention the size of the caps that will fit your package and the colors you prefer.

CROWN CORK SPECIALTY CORPORATION
DECATUR, ILLINOIS
Division of Crown Cork & Seal Company

Production Forum

By Francis Chilson

Industrial Consultant

The First Atomic Century

Now that the energy of the atom has been released in the atomic bomb the possibilities of the future are bewildering and UanI can out-Verne Jules Verne. So here goes:

It is the year 2000. Farming, in which I am so much interested, and at which I have lost so much money, has ceased to exist and once again the forests have claimed the land. It is now no longer necessary to till the land to produce food or meat or raiment. Food, indeed, is no longer transported vast distances from point of production to point of consumption. Food production is no longer a function of the seasons.

Every locality now produces its own food. Food is produced in multi-story structures (of all things in view of my present insistence on single-story factories.) Each story, however, is a tank spaced from six inches to six feet apart according to the "natural" height of the fruits or vegetables grown on the different levels. Close spacing of the stories or tanks is possible because plants are grown in hydroponic solutions and need no earth. No longer does vegetation need direct sunlight because scientists have learned to "bend" light so that it can be "piped in" and evenly distributed in correct quantities and qualities between the closely spaced floors of the food plant. Indeed scientists have synthesized chlorophyl and the photosynthetic processes of growing vegetation are duplicated under exactly controlled conditions. The hydroponic solutions are exactly balanced so that not only is the rate of growth regulated and controlled but the nutritional characteristics of every growing fruit or vegetable is predetermined. The necessary vitamins and other nutritional factors are all there.

Since the stories or tanks of the food production center are too closely spaced to permit a man to plant seed in the growing beds, the seed is pumped into place with the hydroponic solutions. By regulating the surface tension of the solutions and imparting to the seed both positive and negative electrostatic charges, the seeds as they float to the surface of the supporting screens distribute themselves in uniformly spaced symmetrical patterns.

The food production center has no windows and the temperature and humidity of the structure is exactly controlled, level by level, to suit the needs of plants growing on the different levels. There are, of course, no seasons within the structure and one crop succeeds another with just a long enough interval to re-charge the tanks.

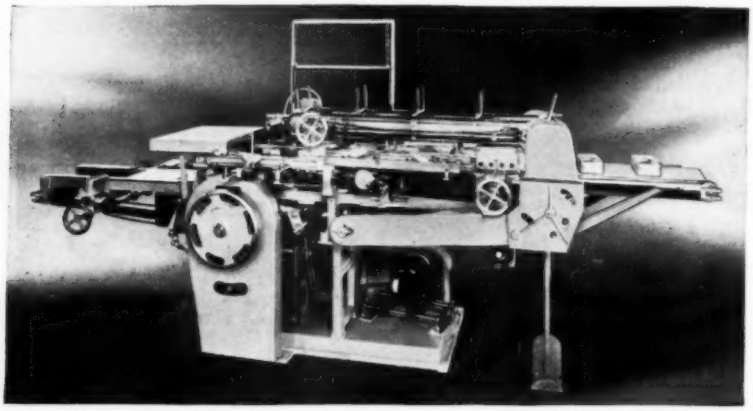
As each crop ripens—hold on to your seat—it is not garnered immediately. Electronic elements available on each level automatically are turned on and the fruits or vegetables are cooked without "heat" where they grow. And the cooking is scientific so that no nutrients are lost.

Now that the crop is cooked, the electronic heating elements automatically are turned off. The hydroponic solutions having been drained out, refrigerating fans automatically are turned on and the cooked crop is quick frozen in its place in just a few minutes.

The screens which supported the growing plants are in reality wire mesh conveyor belts which automatically begin to move the instant the cooked crop is frozen. The crop cascades over the edges of the tanks or stories into chutes leading to the trimming and packaging room on the first floor. These operations are, of course, entirely automatic and the finished, individual portion packages drop into pneumatic tubes, connecting the food production center with the local distribution center.

Meat is, of course, no longer produced for food by natural means. All the domestic animals have been liberated and once again roam the forests as wild animals providing game for sportsmen. Beef, lamb, pork, veal; flesh, fish and fowl are produced in a section of the first floor of the food production center. This section is equipped with huge digestors, fed by chutes from the growing beds or tanks of the upper stories and filled with bio-chemical solutions which convert vegetable matter into "meat"—carbohydrates, proteins, vitamins, amino acids, etc., in a manner similar to the processes that occur in the digestive systems of animals. No longer is it necessary to feed a hog four pounds of corn in order to produce one pound of pork. There is no waste. All of the vegetable matter is digested and con-

Out of the War has come
A NEW FA MODEL



A WRAPPING MACHINE
that sets a new high in perfection of wrapping . . . in speed . . . flexibility and mechanical efficiency

Long the most popular wrapping machine in the package goods field, the FA has been widely employed in meeting war needs . . . This extremely wide use has proved its fundamental merits. Moreover, it has provided our engineers with a wealth of *practical data on which improvements could be based.* The present FA is the result.

Here's a machine that will wrap up to 100 packages per minute . . . is suited to any type of wrapping material in roll or sheet form . . . can accommodate not only an ordinary carton, but open boats or flat objects on a cardboard. And it can be supplied to handle many different package sizes. Some machines now being built will accommodate as many as 10 different sizes.

Mechanically, the new FA is more rugged than ever . . . quieter in operation . . . easier to supervise . . . and it occupies less floor space. Refinements conducive to easier operation and better wrapping include: a new type paper feed; new glue pots that are easier to clean and permit the use of any type of glue or cellosolve; new spring-floating heater units; a new and more sensitive paper stop that prevents light packages from tipping; a new transport mechanism that permits shorter discharge belts; and new folding box which makes it easier to adapt an existing machine to a new package size.

If you are looking forward to more efficient postwar wrapping and a package that has new "come-on", you should know all about this new FA model.

Write for our FA leaflet.

PACKAGE MACHINERY COMPANY
Springfield 7, Massachusetts

30 Church St., New York 7 • 111 W. Washington St., Chicago 2
101 W. Prospect Ave., Cleveland 15 • 443 S. San Pedro St., Los Angeles 13
18 Dickens Ave., Toronto 8

ARMY (E) NAVY

PACKAGE MACHINERY COMPANY
Over a Quarter Billion Packages per day are wrapped on our Machines

verted into meat or fish as desired. The varieties of meat to which the human race has become accustomed are produced, with exact color, taste and texture by regulation of the chemical solutions in the digestors; by control of the electronic and electrostatic cooking elements; by regulation of the digestion cycle.

The beef, pork, lamb or veal, fish, flesh or fowl produced by the digestors, automatically is pressed into forms resembling, chops, steaks or roasts and quick frozen. Automatically packaged in individual portions and dropped into the pneumatic distribution chutes, the meat is delivered to the food distribution center.

Women have been emancipated from housework. The pre-cooked, quick frozen food is served in the beautiful plastic containers in which the individual portions were packaged. In order to prepare a meal the housewife merely radios the food distribution center the menu for the day and the food is delivered by pneumatic tube to her "service room." (Kitchens have disappeared.) The tube is electronically heated so that by pushing a button on her kitchen wall, the housewife will receive food heated to the proper degree—or cold as she wishes.

The degrees of heat received by the food packages in passing through the electronic tube is regulated by the housewife insofar as speed of travel is concerned. The distance of her home from the food distribution center is equalized by the velocity of the packages passing through the tube and this is controlled simply by the housewive's push button. The intensity of the heat is governed photo-electrically by the color of the packages; there being a different color for each class of foods.

Since all foods are produced under exactly controlled conditions the housewife no longer has to waste time shopping. The grocer cannot cheat her with an unripe melon, nor the butcher with a tough steak. In fact there aren't any butchers or grocers any more. One food distribution center serves each community—and everybody lives in small communities—and food distribution and production has become a public utility.

Not only does the twenty-first century housewife do no shopping; she does no dishwashing either. The individual portion, plastic packages are beautifully designed, in colors that gleam like jewels. Plastics in that day, of course, are so cheap, being made entirely from air and water by electronic means, that paper, metal and glass are no longer used as packaging materials.

To get back to food production: labor has been emancipated too. The food production center is operated by one man—the plant manager, in whose air conditioned richly furnished pent house on the roof there is a control board equipped with automatic signal lights. It has not a single push button, being entirely automatic, and operated by time relays and photo-electric cells. In fact the plant manager has nothing to do. Reclining on a soft couch, he is served champagne cocktails on a gold tray, and is fanned gently as he imbibes by beautiful maidens whose raiment consists merely of brightly colored feather fans . . . . .

"Gawd, Willy, hand me the bottle again will you. This first atomic century is getting too much for me."

Bag Dumper

The Ritchie Bag Dumper for lifting and emptying heavy bags has been announced by ASCO Manufacturing Company. Operating on a ¼ horsepower electric motor the machine will quickly lift and empty bags of talc, dry chemicals, or anything dry that comes in bags . . . up to 350 pounds.

The dumper eliminates back-breaking lifts and fatigue; prevents rupture accidents; stops wastage from spilling; keeps the floor clean; reduces dust; can be wheeled about as needed, and may be operated by a boy. An automatic shut-off switch stops the motor at top and bottom positions of the lift. As an added safety feature, a special clutch arrangement disengages the motor if downward return of chute is obstructed. The upward lift takes ten seconds, with eight seconds to lower.

An adjustable height chute at the front fits narrow openings and funnels the bags' contents into a vat or machine without spilling. Two spikes catch and hold the bag while dumping. The chute will handle a bag 24 inches wide.

The Ritchie Bag Dumper is manufactured and sold by ASCO Manufacturing Company, 601 South Anderson Street, Los Angeles 23, California.

Handling Returned Goods

No department of a drug or cosmetic plant is more unsightly than the returned goods department. This is due to what I believe to be a mistaken policy on the part of credit departments generally. Goods as a rule are returned for credit without authorization. Thereupon the unsightly packages are held pending a more or less prolonged correspondence between the credit department and the customer. Sometimes returned

Yes, it was the Humidity

No doubt about it, the efficiency of many an industrial process can bog down when the humidity gets too high.

Put the *same* process in the "comfort zone" by squeezing the excess moisture out of the air—and watch its efficiency perk up!

From the processing of chemicals to the manufacture of electrical insulation . . . and in a host of other applications . . . correctly controlled and maintained humidity can boost output or improve product quality.

That's where G-E Air Conditioning comes in!

Out of General Electric's broad experience in helping war industries solve their problems has come the engineering know-how needed to provide close control of humidity and temperature, as required by specific applications. Perhaps there's a place in *your* plant where this experience can point the way to lower production costs or improved quality. Why not see G.E. now?

General Electric Company, Air Conditioning Department, Section 5049, Bloomfield, New Jersey.

BUY . . . and hold . . . WAR BONDS

GENERAL ELECTRIC

Air Conditioning

goods may lay around for six or eight weeks before the matter is settled.

After wasting a lot of time and money in correspondence, the credit department invariably issues credit or authorizes the goods to be refinished and returned to stock or destroyed. Why not do this in the first place, the instant the goods are received?

No reputable manufacturer will return damaged or spoiled goods to an offending customer. If finally the customer is forced to take the goods back, new goods will be provided or at least the old will be refinished. Sometimes indeed, as in the case of outdated biologicals, you can't ship the old goods back; you'll give the careless and offending customer new goods anyway, and take whatever loss is involved. So why not do it in the first place?

The procedure I have invariably recommended to my clients is to open returned goods, list the contents in duplicate, sending one copy to the credit department and the other to the lab. The goods are examined once a day by a chemist who authorizes it to be refinished and returned to stock or destroyed. This gets rid of the rubbish daily. In the meantime, the credit department can fight it out with the customer and if the goods are to be replaced, the credit department can send through, to the finished stock department, a replacement order.

It is needless to say, of course, that the proper division of the sales department should be kept informed by the credit department as to what is going on, because it not infrequently happens that a parsimonious attitude on the part of an unbridled credit manager can ruin the good will of a good customer. Credit men very often can see immediate pennies a damn sight more clearly than ultimate dollars.

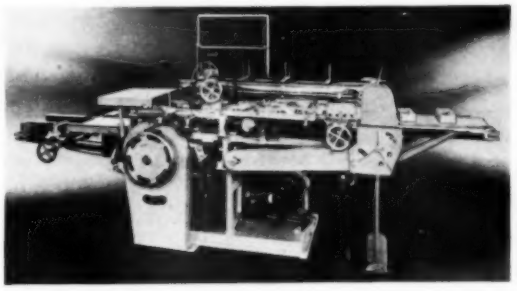
Regardless of credit policy some plant managers follow what I believe is a mistaken policy in accumulating returned goods until enough is on hand to make a "job" of cleaning it up. I think it preferable to use the returned goods department (locating it close by the packaging department) as a cushion or labor pool for those extra or relief operators which every packaging department, having teams or line crews, must employ in order to keep crews balanced. When they are not needed to fill out a crew, these relief operators can be employed examining and refinishing returned goods. There really is no excuse for hoarding a junk pile.

Wrapping Machine

The Package Machinery Company of Springfield, Massachusetts has recently announced production of a completely redesigned all-purpose FA model wrapping machine, incorporating the latest warborn technical improvements that give it greater versatility and more adjustable speeds.

George A. Mohlman, Package president, said the new FA model was built for widest general use in the packaged goods industry. It has a variable speed of from 40 to 100 packages per minute, wrapping either cartons, open boats or flat objects on a cardboard. It is designed for any type of wrapping material in roll or sheet form, and can handle a varied size of packages.

"Mechanically the new machine is more rugged than ever, quieter in operation, easier to supervise and occupies less floor space," Mr. Mohlman said.



Among its many refinements are a new type paper feed, new glue pots that are easier to clean and permit the use of any type of glue or cellosolve; new spring-floating heater units; a new and more sensitive paper stop that prevents light packages from tipping; a new transport mechanism that permits shorter discharge belts, and a new folding box which makes it easier to adapt to an existing machine for any size package.

The machine can be easily adjusted to wrap as many as 10 different sizes of packages. Overall changes also permit use of paper ¼ inch wider, and the maximum folding box has been increased from 5¼ inches to 5⅝ inches.

Addenda to Single Story—Finis

Are there then *any* conditions under which the erection of a multi-story factory is justified? some of my readers say. While I have been emphatic and insistent on the point I hope I have not appeared dogmatic. The answer to this question is simply—yes. If for instance, you have to make an addition to an existing plant, which cannot economically be sold, junked or removed, and if further, you cannot secure the required space by modernizing the old plant, then you have no alternative but to build a multi-story addition. Again, some plants are built on side hills and if you make an addition even to a single story plant located on top of the hill, the addition may have to be two, three or four stories high. Likewise, if the existing multi-story factory is located in an expensive urban area and represents a very large investment, the cost of starting over in a proper location may be far too great to be amortized by potential production savings. After all, there is a limit to savings which can be made by reducing labor and overhead costs. So all these decisions really boil down to the facts in each case (not the prejudices)—and the interpretation of the facts in the light of common sense and arithmetic.

Finally, aren't there any situations where the objectionable nature of the material to be handled; its bulk or tonnage—or its failure to lend itself to mechanical handling—would warrant the construction of a

multi-story building in order to be able to take such stuff up in elevators so that it could be dumped into tanks or hoppers on upper floors? There may be such materials and if there are in some industries, common sense would dictate such a course. I simply haven't found such materials in the drug and cosmetic industry or the chemical or the food, paint and confectionery industries in which my experience and obseravtions were gained. I have encountered many delicate emulsions and color and odor sensitive materials which had to be dumped from process to packaging and others so foul in odor that to handle them mechanically would cause so great a cleaning problem that the economies thus entailed would more than be offset by the cost of cleaning. But so far I have not had any trouble handling such products in single-story buildings with portable hoppers, hoists and trolleys and if necessary monorails to permit conveyance of the hoppers from point to point.

Having presented to you the numerous advantages of single story construction, it is but fair that I should, before dropping the subject for a good long time, try to answer some of the objections correspondents have raised. One of the questions most frequently asked is concerned with the optimum size of a single story structure. Isn't a point reached when the distance, to be traversed by materials in passing from raw storage through processing and packaging to finished stock, becomes so great that the advantages of continuous movement are lost? The answer to this is there are optimum limits to everything, factory buildings included, but what the optimum size is for drug and cosmetic manufacture, I do not know. I have been in many of the largest plants in the industry and not one have I seen but that it could be operated more economically as a single story structure.

I think the optimum size of a factory is determined by the economics of its site. In many cases in this industry and particularly among soap manufacturers, it has been found desirable to establish branch plants. Merck had to establish a branch plant in Virginia simply because it was not possible to obtain at the original site cold water in sufficient volume.

If you ask a manufacturer, who has operated both types of plant which he'd prefer, I believe his answer will confirm my judgment. I did ask George Wrisley, whose old plant was an eight-story structure and who now operates a single story unit, which he'd prefer if again he were going to build a new plant. His response was prompt and vigorous:—even if he had to build a plant the size of the Industrial Clearing District, he said he'd still build a single story factory.

Another question frequently raised concerns the number of buildings a factory should have. Unless there's a good reason for doing otherwise, I think a factory should consist of a single building. But frequently that is not practical. A manufacturer may actually be engaged in several different businesses, such as the manufacture of some of his own raw or packaging materials. Some chemicals when they are being made smell to high heaven and the control of odor sometimes presents too costly a problem to permit housing such processes in a single building especially where odor-sensitive products also are being made. Some chemicals are too corrosive to be made in anything but a cheap shed. Others are inflammable or explosive. Still others involve the use of penetrating dyes which present a difficult control problem which is easiest solved in a disconnected building. Certain biologicals must by law be made in separate buildings.

On this point I may not have made myself entirely clear. So long as all buildings are on the same level and all are single story units, a series of small buildings not too far apart can be operated fairly efficiently. It is, of course, more expensive as a rule to build several buildings of substantial construction. Supervisory costs are greater, of course. But there are times when conditions permit no alternative. When a plant site, however, contains several multi-story buildings then you really have a mess from an operating cost standpoint.

Another question often raised is: Do not materials actually have to travel farther in a long single story building, since in passing from raw to finished storage, all departments must be traversed, whereas in a multi-story unit some floors may be by-passed by elevators? The best way to satisfy yourself on this score is to make two diagrams representing, for example, forty thousand square feet of space. One diagram will represent a rectangular building one hundred feet wide and it will therefore be four hundred feet long. The other diagram will represent four floors each one hundred feet wide by one hundred feet long.

In determining the average distance material must travel, one must assume in a multi-story structure that the center of each floor of such a structure represents the mean distance material must travel on that floor, just as one must assume in a single story structure that the mean point is the center of the principal sections.

In the first instance, if receiving and shipping are at opposite ends of the single story structure, the average distance material must travel is obviously four hundred feet.

In the second instance, measuring from the elevator (assuming it to be located at the exterior edge of the diagram representing the four story structure) to the center of each floor, will reveal that material will travel fifty feet from the elevator to the center of each floor and back again to the elevator. In other words one hundred feet per floor and four hundred feet for the entire building. But in the case of the multi-story unit double the heighth of the building to the fourth floor must be added to the total distance. If the ceilings are twelve feet high, the distance from the first floor to the fourth floor will be thirty six feet up and the same down. Hence material travels *farther* in a multiple-story unit than it does in a single—not to mention intermittent movement and lost time occasioned by the elevator.

Distances can be reduced in a single story structure. Certain local conditions might make it desirable to arrange equipment in the form of a U instead of a straight

"IT'S FASTER"

"IT LASTS LONGER"

"IT'S MORE EFFICIENT"

TRUE! ALL THE REPORTS YOU HEAR ABOUT

KIEFER AUTOMATIC ROTARY VACUUM FILLING MACHINE

are based on FACT . . . on year-in-and-year-out performance in plants throughout the U. S. A. and in many foreign countries.

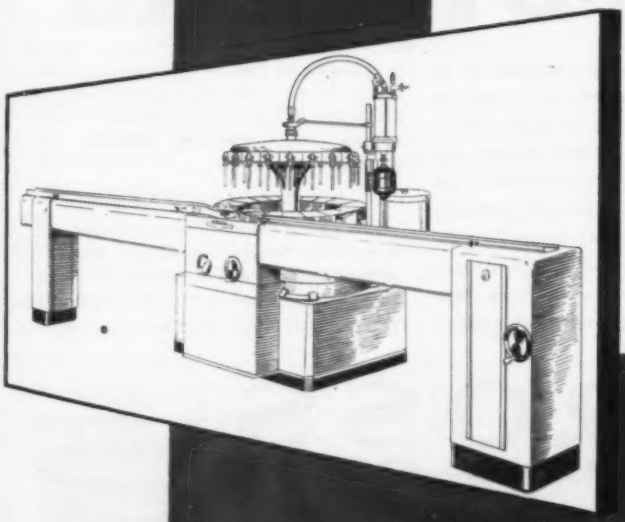
This "Automatic Rotary" DOES fill all liquids — light, heavy, foamy, syrupy — in less time.

It DOES do a more efficient job judged — by the day, season or year.

It DOES pay for itself within a mighty short time but just how long depends on your particular filling speed.

•

Deliveries made when permissible. Bookings are growing heavy.



ARMY E NAVY

The Karl Kiefer Machine Co.

Cincinnati, U.S.A.

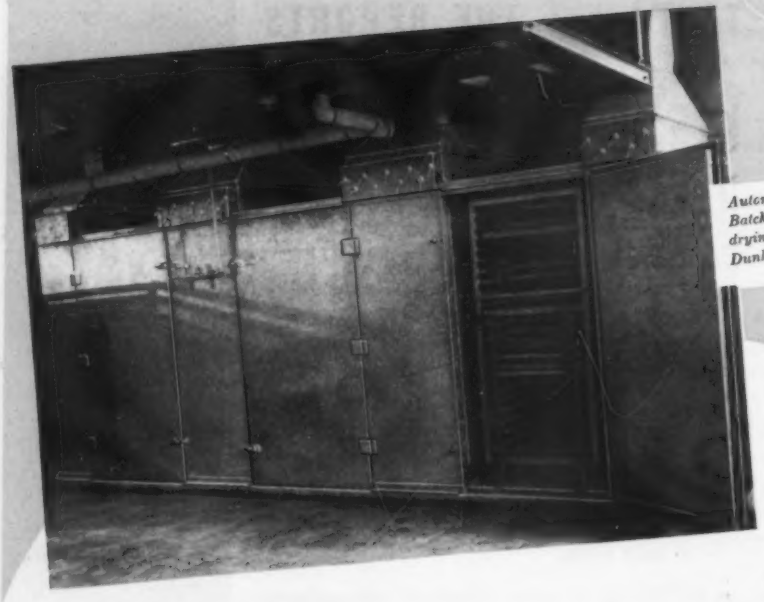
New York
Boston
Chicago

San Francisco
Seattle
Los Angeles

DRUGS

provide the toughest test for

DRYING



Automatically controlled, ROSS Batch Dryer insures uniform drying in plant of Carroll, Dunham, Smith Pharmacal Co.

and leading manufacturers rely upon

ROSS BATCH or CONTINUOUS DRYERS

Prominent Users of Ross Dryers include

The Bayer Co. Inc.; Burroughs Wellcome & Co.; Chattanooga Medicine Co.; Carroll, Dunham, Smith Pharmacal Co.; National Drug Co.; New York Quinine; G. D. Searle & Co.; Sharp & Dohme, Inc.; Stauffer Chemical Co.; United Drug Co.; and many others.

In no other industry are the requirements for proper drying so complex or so exacting. Depending upon the material, temperatures range from low to high; final moisture content is frequently as low as one-tenth of one percent. In every case, absolute uniformity of product is an essential demanding constant automatic control of both temperature and humidity. Other essentials are cleanliness and protection against contamination.

It is significant that Drug dryers constitute one of the most diversified and successful of the entire ROSS line—a tribute to their designs, construction and operating advantages.

THE ROSS LABORATORY

is fully equipped with all types of apparatus to definitely determine in advance the most efficient and economical method for drying your particular product. A descriptive brochure is available to you.

ROSS SYSTEMS

J.O.ROSS ENGINEERING CORP.

DESIGNERS AND BUILDERS OF AIR PROCESSING SYSTEMS

ROSS CONTROL OF AIR FOR MODERN INDUSTRY SYSTEMS

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ROSS ENGINEERING OF CANADA, LIMITED — Dominion Square Building, MONTREAL, P. Q.

CARRIER—ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

line, so that material can flow from and back into a common warehouse. Again, where separation of functions is necessary, the single story building may take the form of an E with the vertical axis constituting a consolidated warehouse feed—and being fed by the wings. Such an arrangement allows the warehouse to expand in opposite directions, and, depending on location, laterally as well. Any number of wings may be added or the wings may be merged as expansion takes place. In short you can do anything you like with space on the ground but when you put part of your space into the air you are limited and inflexible.

Labor Leaders

In the labor movement there are excellent opportunities for educated young men. The essential difference between British and American labor is that in England labor is led by educated men. Many of these leaders like Atlee himself spring from upperclass families.

You can deal with such men. They are cultivated and intelligent and they know what they are talking about. In our country too many labor leaders are rowdies. They speak to you out of the corner of their mouths; they murder the King's English; they are not intelligent and well informed—they merely are shrewd and they abide by the law of force. They know how to apply pressure and brickbats, just as in coming up through the ranks, they knew how to use their fists and blackjacks. It is only natural that educated men find it repugnant to deal with such roughnecks.

I am not castigating labor as such. I used to belong to an A. F. of L. union myself during the last war—and to tell the truth I hated it because I didn't like being told by a stupid ass what I could or could not do while on the job. In those days the A. F. of L. rigidly enforced the caste system. If you were a helper, as I was, there were certain tools you could not touch; only a regular apprentice or a mechanic could handle them. Since I was an engineering student it was the forbidden tools which appealed to me most. What with fines and suspensions and a few black eyes I learned a lot about the forbidden tools and also about trade unionism—*as it should not be.*

But there are signs that the CIO at any rate is waking up. They have begun to organize professional people. They have done away with the old caste system, that is, the apprenticeship system. They have a number of educated and intelligent men among their leaders.

Labor needs educated, intelligent leaders especially among the industrial groups. Industrial labor leaders should know specific industries by personal experience in them; they should know the broad economic aspects of these industries. Then in negotiations they would know what they are talking about and hence would gain the respect of the managements whose employees they represent by not making utterly impossible and uneconomic demands.

I hope the day is not far off when labor will be united as it is in England under intelligent, educated leaders, who will realize that knowledge, statesmanship and diplomacy are better tools than blind arrogant force. Until such leaders arise management will continue to distrust most labor leaders as ignorant racketeers.

Men Wanted

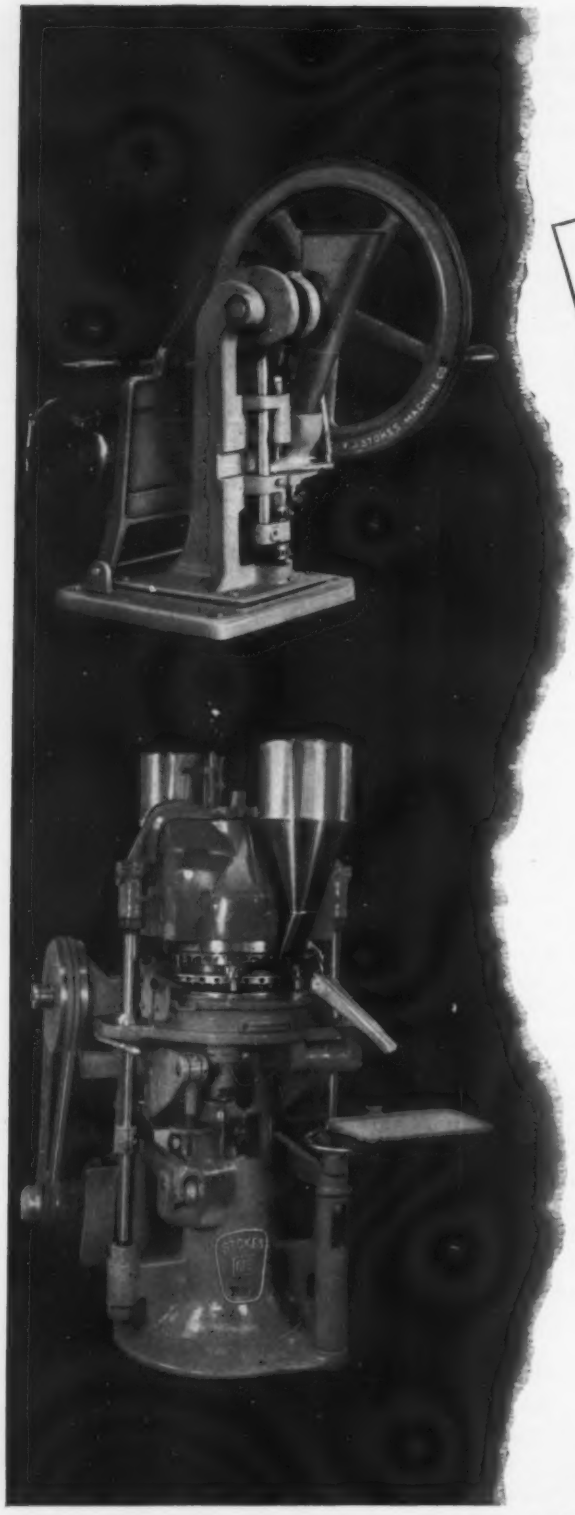
One of my cosmetic clients needs an assistant superintendent. While cosmetic experience would be helpful, it is not essential provided the candidate has had a lot of packaging experience in a supervisory capacity. It is desirable that he be an engineer with a lot of experience in planning motion analysis, setting up jobs and establishing standards. The candidate must be well under forty and possess an agreeable, co-operative personality. This job is located in New York. The outfit is tops and the starting salary will be above $6,500.00.

Likewise I am looking for engineers with broad experience in the drug and cosmetic industry for my own staff. No one can qualify who has not worked in more than one plant and who has not had several years of experience at least as an assistant superintendent or supervisor of a methods and standards department. A comprehensive knowledge of packaging and packaging equipment is essential. Broad engineering training preferably in chemical engineering is necessary. Tact and a convincing personality is likewise essential. The candidate must be able to sell ideas and win enthusiastic co-operation from clients. Preference will be given to men in their thirties. Travelling is incessant but liberal compensation more than offsets the discomforts of travel. My associates are paid salaries substantially in excess of the trade average for plant managers. If you feel you'd like to become a consulting engineer let me have your educational and business history in detail. Your present connections will not be approached directly or indirectly. If this does not appeal to you personally I'd appreciate it if you will pass the word along to anyone who you think can fill the bill.

Also I have been retained to build a plant in Puerto Rico and I shall want a plant manager to operate it. A background in pharmaceutical chemistry would be helpful and a lot of practical experience in ampouling and tablet making is necessary. Pharmaceutical know-how is necessary because the candidate will have to instruct native assistants. Spanish would be helpful but not indispensable. No limit has been placed on salary.

Banding Machine

The Superior Type Company, 1800 Larchmont Avenue, Chicago, Illinois is noted for the clever gadgets they have developed for printing or banding various types of containers and other objects. They make, for instance, a small banding machine about the size of a typewriter which could be adapted for putting wrap-around labels on cream jars and various liquid containers. They also manufacture machines for printing ampules. Likewise, they make devices for code numbering containers as they pass through packaging equipment.



WHAT ARE YOUR TABLET MACHINE NEEDS?

Stokes is ready to help you plan to expand, replace and repair war-worn tablet manufacturing equipment.

Whatever your needs—experimental tablet machines for research, up to large rotary machines for high-speed production—Stokes builds equipment to supply them.

For 50 years we have designed and built automatic machines for compressing pharmaceutical and other tablets—machines which, today, are standard equipment throughout the world.

Stokes Tablet Machines embody many unique features. Typical are the Automatic Excess Pressure Release on rotary and larger single-punch models, Anti-Capping Devices, and means of producing ball-shaped and perforated tablets. We also manufacture complete auxiliary equipment for tablet manufacture.

Come to Stokes for tablet information. We have machines in production, the experience, the technical knowledge and the laboratory facilities to help you.

F. J. STOKES MACHINE CO.
5932 Tabor Road, Philadelphia 20, Pa.

Illustrated: *(Top) Eureka single-punch bench model Tablet Machine. (Bottom) "BB-2" Rotary Tablet Machine for high-speed production up to 1500 tablets per minute.*

50th year of Service to Industry

F.J.Stokes TABLET MACHINES PHARMACEUTICAL EQUIPMENT FJS Est. 1895

Flash Burn Preventive Cream

(*Continued from page 329*)

Bleached Dewaxed Shellac	13.70%
99% Isopropyl Alcohol	28.48%
Bodied Linseed Oil—Z-3 Viscosity	3.50%
Triple Pressed Stearic Acid	0.15%
Triethylene Glycol Di-2-Ethylhexoate	0.80%
Diethylene Glycol Monoethyl Ether	1.10%
Titanium Dioxide—Cosmetic Grade	37.00%
Sodium Bicarbonate	2.25%
Magnesium Stearate	8.00%
Menthyl Salicylate	2.50%
Sulfonated Alcohol Wetting Agent	0.30%
Iron Oxide (Lemon Shade)	1.60%
Mineral Black	0.62%
(All percentages are by weight)	100.00%

It will be noted from this formula that the composition is essentially a suspension of pigments and powders in a non-aqueous vehicle. The latter consists of an alcoholic shellac solution plasticized with linseed oil, fatty acid and glycol esters. The pigment portion consists of titanium dioxide and iron oxides mixed to yield a battleship gray color. The wetting agent is added to facilitate removal. The selection of the proper type and amounts of pigments presented a major difficulty since they had to be relatively inert insofar as dermal reaction was concerned, yet sufficiently refractory to impart a reasonable degree of insulation. The proper wetting agent also had to be selected and used in optimum amount so that it would not render the entire dry film water or perspiration soluble yet function when water and soap were used to remove the applied cream from the skin. The usual requirements as to the freedom of the mineral components from toxic ingredients entailed considerable work in the spectroscopic analyses of the final pigments selected.

Reproducible testing methods and proper equipment for the determination of the efficiency of the various compositions were finally developed. This was fortunate for despite the fact that the writer was deeply engrossed in the research and development work, it was still a far cry to the point where he would willingly expose his own arm or leg to a blow torch or a flash of exploding powder. Essentially required was an instrument capable of suitable control able to produce a flame flash of relatively high temperature—somewheres in the nature of about 1000° C. Such flashes had to be of extremely short duration—fractions of a second. Coincidental was the necessity of selecting a test medium since it was obvious that no technician would willingly and repeatedly risk his own skin both figuratively as well as literally while testing preparations of unknown performance factors. As is the case with all control mediums, the material selected had to be one relatively uniform which could yield reproducible test results under controlled conditions.

The primary need was met by means of a simple mechanism. The flash producing device consisted of a heavy metal tube capped at one end. Through the sealed end was threaded an ordinary spark plug of automobile type for igniting the charge. The latter was loaded through the muzzle of the device and tapped so that it settled on or about the spark plug. The spark was actuated through a switch connected to an ignition coil. Some difficulty arose in the preparation of a suitable charge for the "gun." The composition had to be one which when ignited would produce a hot flame of short duration. Potassium chlorate, sugar and magnesium powder in the ratio of 0.66 gms. of the chlorate, 0.33 gms. of sugar and 0.5 gms. of powdered magnesium were used. The charge placed in the device usually was in the amount of about 5 grams. Later on the entire mechanism was replaced by another tube also sealed at one end and also loaded through the muzzle. The charge consisting of from 15-25 grams of smokeless powder or cordite was ignited by means of a fuse passed through a fine hole drilled in the sealed end.

Variously materials were discussed and tentatively tested as a suitable base for the protective cream medium. Leather was considered and rejected because of certain differences making it unlike the human skin. A fortunate solution to the problem was finally arrived at through the use of circular filter papers upon which the test medium was smeared under conditions which would insure representative application. The coated paper was then set in a perforated holder located some 20 cm. from the muzzle with the coated side facing it and the center point of the test sheet at right angles to the barrel. The general set-up and construction details of the testing device are represented in the following illustration. Incidentally, latest advices on test mediums refer to the use of cigarette paper as a base for the cream in lieu of filter paper.

Experimental results obtained through the use of such a device are usually evaluated by examination of the uncoated side of the paper after exposure to a test flash. A product having proper performance characteristics will exhibit but a slight browning on the reverse of uncoated side. No charring or complete puncture either of the film or paper will be evident. In comparison an uncoated paper of the same type under identical conditions will be completely burned away. It was possible during the course of these tests to completely evaluate the protective action of the cream by noting the extent of the browned area and the presence if any of any direct punctures. Experiments performed with live rabbits coated with a suitable film of the cream on shaved areas and exposed to the action of test flashes under controlled conditions indicated that the degree of protection afforded was such that no effect beyond a first degree burn was experienced as against third degree burns and extensive edema on unprotected areas similarly exposed. These tests were further amplified by demonstrations during an ordnance exhibition which took place under restricted invitation conditions in the

(*Continued on page 379*)

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STENCIL MARKED SHIPMENTS WITH EASILY READ, PERMANENT STENCILED MARKINGS—roll faster and costly delays in transit are eliminated.
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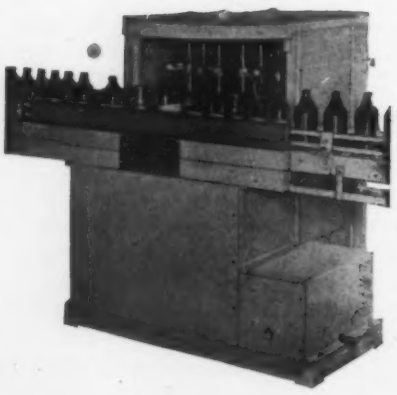
Your POST WAR PICTURE



The U. S. Sanitair
Double Action
Automatic Air Cleaner

YOU must design and make your post-war picture for yourself with the assistance of those having talents which will compliment yours.

When you are Bottling and Packaging liquids and semi-liquids, that is where we can co-operate.

We are designers and manufacturers of hand-operated, semi-automatic, fully automatic and high speed container Bottling and Packaging Equipment, serving outstanding bottlers over a long period of years.

Send for copy of our Bottling Engineer Handbook which has recently been reprinted. Some new bulletins on small equipment have also been issued.

Let us know your needs and we will be glad to serve you subject to existing priority requirements and the availability of machines.

U. S. BOTTLERS
Machinery Co.
4011 N. ROCKWELL ST., CHICAGO

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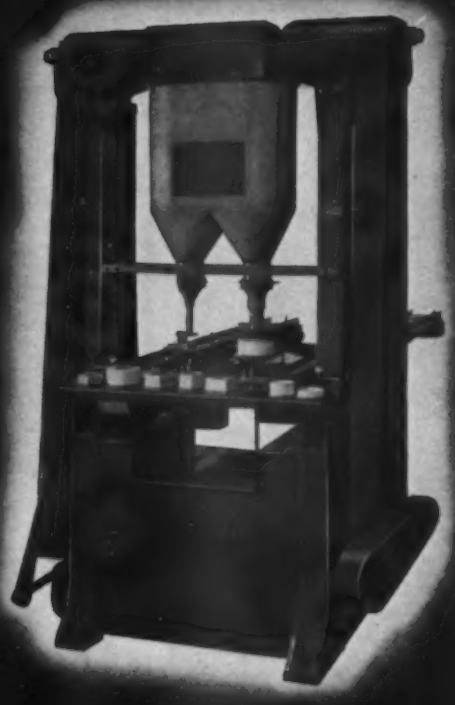
Semi-automatic

VOLUME FILLER, WEIGHER OR PACKER-WEIGHER



For Face Powder, Talcum, Flour, Soap Powder, Tooth Powder, Cocoa, etc.

Many manufacturers who do volume filling, gross weighing or packing have such a wide range of package types and sizes that they do not need fully automatic machines. The Model MH "Bond" Semi-automatic is just the machine for this field as it is easily converted from one package size to another. And it can be used for any type of container —either bag, envelope, carton, jar or can!

A single operator, with a single Model MH, can fill up to 50 containers per minute, with negligible variations in packed weight.

The Model MH is a twin-station semi-automatic machine. We also manufacture many other models of semi-automatic and automatic machines from single to four stations.

If you package cosmetics, drugs, chemicals, foods or cleaning powders, call on U. S. Automatic for the best machine to fill your requirements.

A representative group of samples from the McKesson & Robbins line, which is being packaged on the MH.

Send U.S. details on any of your packaging problems —we have the machines and the engineering background to help solve them.

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Depend on San-I-Tanks for safe handling of all your liquids and chemical preparations. The ideal tank for storage, mixing or processing purposes. Built by tank specialists, San-I-Tanks incorporate every time saving, money saving feature. For special tank adaptations consult our engineers for their recommendations, no obligations, of course.

Government restrictions prevent deliveries at present of stainless tanks for the processing of cosmetics and toiletries. We invite your inquiries for delivery at future date

√CHECK THESE PRODUCTION and EFFICIENCY INCREASING FEATURES

Fabricated throughout of 18-8 Stainless Steel, No. 4 polish on inside, bright finish outside. San-I-Tanks are built to last.

All inside welds are ground smooth and polished. San-I-Tanks are built right throughout.

San-I-Tanks incorporate special self-draining features with specially formed bottoms sloping to the front.

San-I-Tanks are rust-resistant, easy to keep clean and sanitary because of their Stainless Steel construction.

Many special extras available in stock for San-I-Tanks such as covers, motors, agitators, etc.

Built by craftsmen with years of tank building experience—you are assured of years of trouble free, efficient service when you insist on San-I-Tanks.

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MODEL EBW
ASBESTOS DISK

Filter

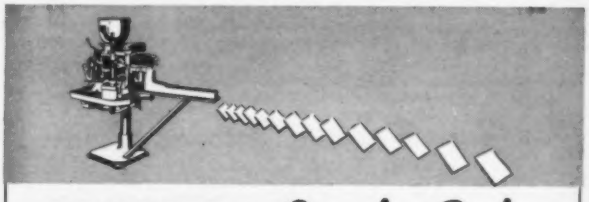
COMPACT AND
EASILY PORTABLE

Equipped with a three gallons per minute pump, and electric motor, this unit will accommodate from two to six Ertel Asbestos Filter Disks. Has standard hand wheel for fast effortless tightening and is equipped with four ball-bearing casters for easy mobility. Ertel engineers will be glad to recommend the correct unit for your requirements.

CATALOG { The fully illustrated Ertel Catalog-12 describes the complete line of Ertel Liquid Handling Equipment. Send for a copy today; no obligation of course.

ERTEL ENGINEERING CORPORATION
KINGSTON, NEW YORK

LIQUID HANDLING EQUIPMENT ENGINEERS



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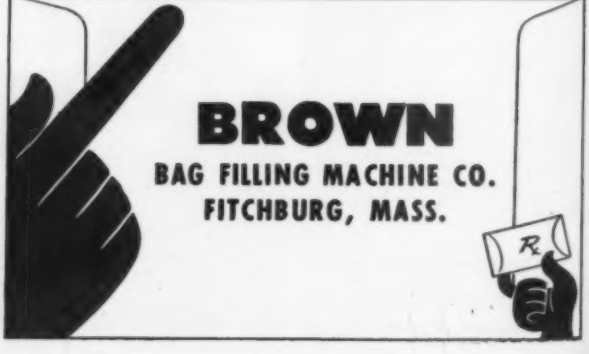

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When you examine the unique design of the turbine of an EPPENBACH COLLOID MILL, it is easy to understand why finer diffusion is obtained with this machine. The material is subject to three distinct actions:

1. Liquid is broken up into minute globules by high velocity impact, resulting from the whirling action of the top turbine,
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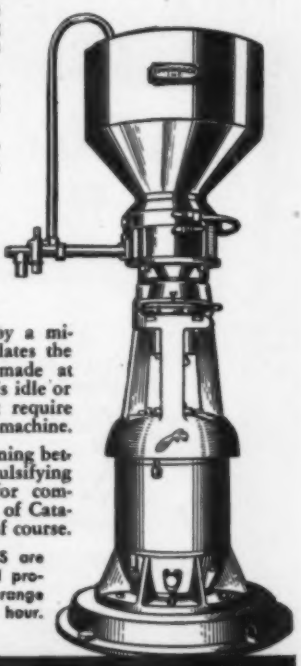
3. Hydraulically sheared by the final smooth surfaces of the rotor and stator.



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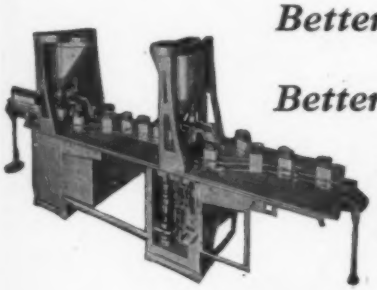
LOOKING AHEAD
toward Post-war Days

Today, our facilities, like those of so many others, are filled to capacity turning out material that is helping bring victory and peace closer. For that reason we cannot always give the service which has built the "S & S" reputation over the past 40 years.

We are doing our best, though, to help our many friends and customers all we can. But, if you have to wait for repair parts or even new machines, we hope you will understand.

In the meanwhile, our engineers and designers are working steadily so the S & S machines you will want after the war will serve you better.



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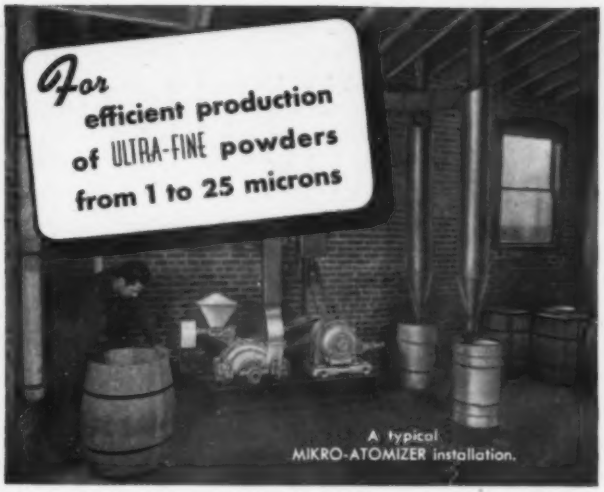
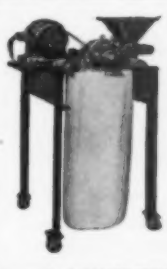


THE new MIKRO-ATOMIZER provides mechanical, screenless pulverizing for the efficient production of ultra-fine powders in the low micron ranges.

Compact and highly efficient, the MIKRO-ATOMIZER has been developed to produce powders of a fineness that permits guaranteed performance with particle sizes as low as 1 to 2 microns on certain materials. In addition, the operation is exceptionally cool.

Dependable mechanical control of particle size is assured with the MIKRO-ATOMIZER. An entirely new principle in grinding is employed involving the imparting of a centrifugal force to each particle and opposing that force with an aerodynamic drag. This principle is applied in combination with and as an integral part of the grinding action.



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To arrange for a test grind of your material in a MIKRO-ATOMIZER, send for a copy of Confidential Test Grinding Data Sheet and new MIKRO-ATOMIZER Bulletin.

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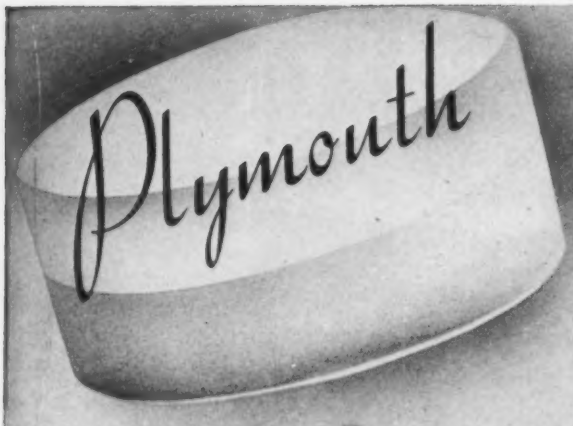

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Since the introduction of this new face powder material sales of it have constantly increased because the use of it actually represents a development in fine face powders.

Its exceptional silky, soft, smoothness, the complete absence of odor and the extremely fine particle size of it, plus its extraordinary adhesiveness actually improves a face powder in which it is used. As little as 5% added to your formula will bring about this result although it is being used in some face powder to the extent of 15% and a formula is offered showing its use in this percentage.

Samples are at your disposal and we believe that this is one of the Plymouth products which warrants a serious investigation by every face powder manufacturer because it has real merit and will improve your product.

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Flash Burn Preventive Cream

(Continued from page 371)

Philadelphia metropolitan area some time ago. The writer was informed that during the course of such tests, it was demonstrated how men wearing a coating of this cream swam a considerable distance through salt water and then upon exposure of the coated areas to test flashes showed but very mild burns. It was proved beyond reasonable doubt that the product possessed considerable merit as a protective medium for unclothed skin areas against high temperature flash exposures in that it definitely minimized the effects which would be normally encountered from such contacts.

As already described, the necessity for the finished product to be completely free of toxic ingredients was an obvious one. What was of greater import was that the cream form a *discontinuous* film following application and consequent rapid drying. The cream could not result in the formation of a rigid film since that would limit the physical actions of the wearer or otherwise crack off leaving unprotected areas. It was therefore necessary from a chemico-mechanical standpoint that the film in effect consist either of a finely reticulated structure or else be of lamaellar characteristics so as to exhibit a measure of flexibility. The latter form could not be created and therefore the former was the only remaining possibility. It is recognized that dilute shellac solutions of either aqueous or solvent type do form such finely "cracked" films when applied to the skin and allowed to dry. In fact this idea was used some time ago as a base for "liquid leg make-up." Continued flexibility and water resistance were achieved by the judicious use of drying and non-drying oily components. These were also selected with a view towards ease of removal when so required.

It so happened that the combination of materials selected did possess to considerable degree the property of absorbing some measure of water without becoming slimy or "running." This was responsible for the lasting properties exhibited by this cream. The writer had occasion to make a duration test (of some thirty hours extent) with the compound during the course of which a complete day's laboratory work was covered, a shower without the use of soap taken that evening and another day's laboratory work completed without any marked change either in the appearance or performance properties of the applied product. Since the material was completely flexible, a minimum amount of discomfort was experienced during this time. In fact most of the interval, the writer was unaware of its presence.

Contrary to general concepts of the manufacture of this cream, commercial production is relatively simple. If the material is regarded as a pigmented lacquer, its large scale formulation becomes quite obvious. As will be noted from the following general flow sheet, the procedure falls into four general steps: 1. Preparation of vehicle; 2. Mixing of powders; 3. Blending of vehicle and powder (pigment) components, and, 4. Final reduction of mixture to proper particle size and viscosity.

Filling of the finished product must be made by positive displacement machines. This is due to the high viscosity of the finished cream as well as the necessity for preservation of the solvent content. It necessarily follows that such devices be of enclosed or vapor tight construction else the viscosity and working properties of the finished product will be considerably altered. Initial shipments of this product were packed in flat type ointment tins of approximately four ounce size. Each tin had a waxed paper liner to insure protection of the contents against solvent loss. Later bids required packaging in collapsible tubes of somewhat smaller capacity; obviously a more desirable container for a product of this type.

Some general idea of the costs involved in the preparation of this material may be gleaned from the following estimates based upon actual production runs. No estimate of profit or administration overhead has been included as these costs or determinations are particular to the plant, management and locale. The cost of containers, and packaging labor represented herein covers the form and type already described packed twelve to a collapsible paper carton and several cartons to the case. The cans and cartons having already been printed with suitable labels.

Raw Materials Consumed	$2619.19
Mixing Labor	99.18
Filling Labor	184.63
Cans, Cartons and Cases	730.02
Packaging Labor	46.15
Power	57.00
Total	$3736.17

Note: The materials consumed and the packaging materials required covered the preparation of some 25,836 individual units or tins. The entire operation took five days and the rate of production ranged from 5500-6000 units per eight hour day. As originally estimated for the plant wherein this lot was produced, additional costs for factory and administration overhead, delivery charges and seven and one-half per cent profit brought the entire cost estimate up to a grand total of $6124.11 or a unit cost of about 23 cents per container or individual tin.

Post-war uses for a preparation of this type are legion. Industrial safety requirements in plants such as foundaries, folling mills, smelting plants, glass works and similar establishments where exposure or danger of contact with materials at high temperature is always imminent leave little doubt as to the applicability of such a material. Benefits to be derived from its use would naturally include lowered insurance rates and increased production schedules since the accident rate would be reduced. Additional uses for such a cosmetic product would naturally be found in operations such as incinerators, welding or metal cutting operations. Firemen, stokers and all other people exposed to excessive heat or open flame would also benefit from its protection.

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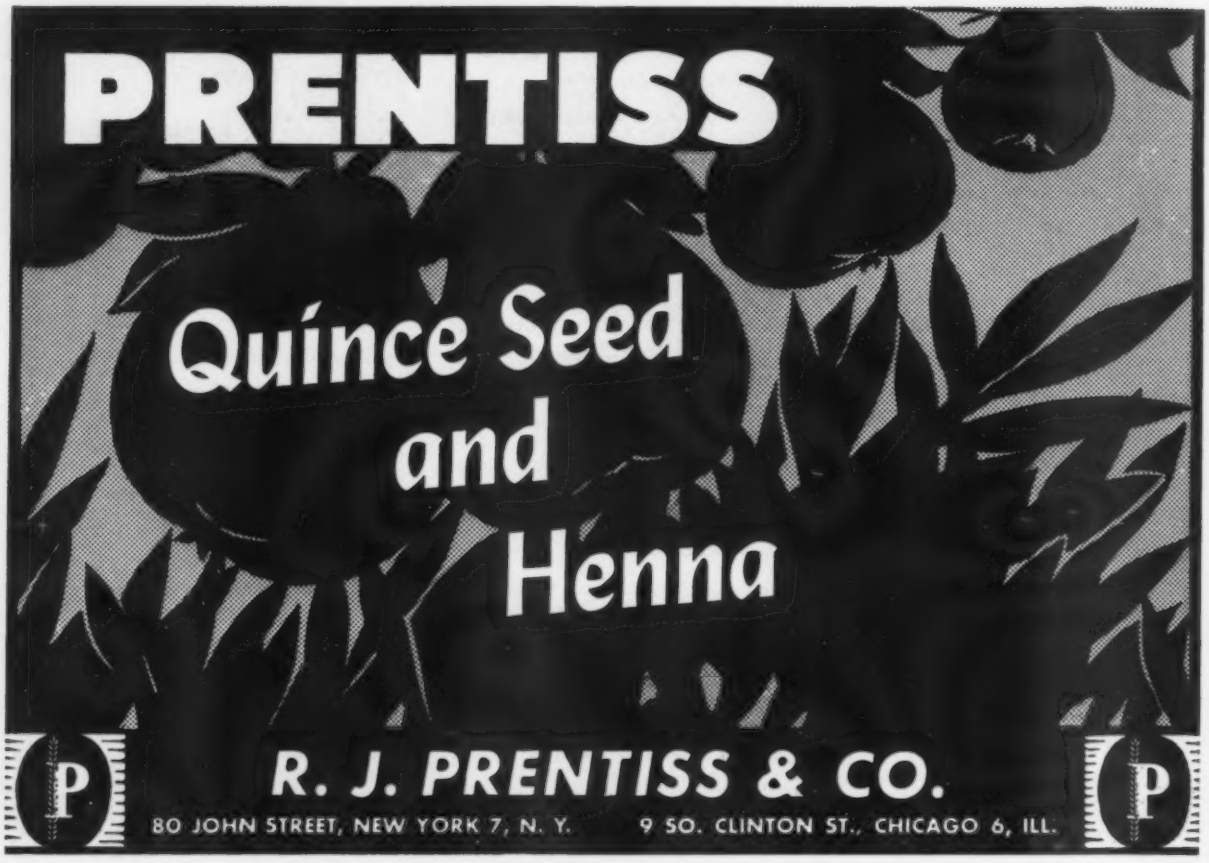

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Oral Signs of Vitamin B Deficiencies

In the experience of D. Cayer, J. M. Ruffin and W. A. Perlzweig *Southern Med. J.* 38:111, 1945) glossitis and cheilosis constitute the most reliable evidence that a vitamin deficiency actually exists. In a group of twenty-eight patients having definite clinical evidence of a deficiency of B-complex, twenty-seven had typical glossitis and ten had fissures in one or both angles of mouth. It was concluded that, in general, patients having glossitis or cheilosis are apt to have a lowered nicotinic acid excretion after a test dose, but that glossitis may be due to multiple deficiencies. While the administration of nicotinic acid will result in recovery in most patients, occasionally it is necessary to give the whole B-complex to restore the tongue to normal. It is believed that the vitamins are so closely interrelated that it is difficult to attribute certain physical findings to a deficiency of any single specific vitamin. Laboratory determinations of the various vitamin levels were found to be valuable in evaluating the nutritional status of the subject.

Sulfas in Chewing Vehicles

Because, in some sick bays in the U. S. Navy, tonsillitis and pharygitis account for one-fourth of all admissions, Pfeiffer and Holland (*U. S. Naval Med. Bull.* 44:695, 1945) thought that a sulfonamide combined with aspirin in a chewing vehicle would be of assistance in such cases. Using paraffin and chicle as vehicles, they found that sulfathiazole in either chewing vehicle promptly attains a high salivary level which is maintained for 90 minutes. On the other hand, sulfadiazine does not attain a high salivary level until the vehicle has been chewed for 90 minutes. The chicle vehicle lasted for the greater part or the entire period of required chewing, cut the paraffin tended to fragment in the first 15 minutes.

Bismuth Sodium Tartrate in Tularemia

In the past three years, W. W. Jackson (*Am. J. Med. Sci.* 209:513, 1945) has observed 61 cases of tularemia. In treating this condition, he experienced disappointment with the Foshay specific antiserum and more recently a trial of several of the sulfa compounds resulted in no improvement whatever. Penicillin also was ineffective.

During the last two years Jackson has used a solution of bismuth sodium tartrate especially prepared for intravenous use. The dose is estimated on the basis of 1 cc. per hundred pounds of body weight but in children a relatively large dose (1 cc. for 50 pounds) may be given. The average number of injections required for cure is seven. Contrary to prevalent views, the intravenously administered bismuth is quite free from serious untoward manifestations. No death has occurred in this series of 61 cases. There was prompt recovery in all cases treated by intravenous injections of a solution of bismuth sodium tartrate, suggesting that the use of this solution is a specific procedure in the treatment of tularemia.

Evaluation of Sulfa Ointment Bases

Because it is apparent that, in prescribing sulfonamides for local use, careful consideration should be given to the choice of a vehicle for these drugs, R. W. Howard (*New England J. Med.* 232:698, 1945) undertook an evaluation of the ten ointment bases following:

Ointment	Percentage by Weight
Base 1. All-grease base:	
Petrolatum	95
Sulfonamide	5
Base 2. "Washable" jelly base:	
Water	70.6
Glycerin	18
Pectin	6
Sulfonamide	5
Methyl parahydroxybenzoate	0.2
Sodium bisulfite	0.2
Base 3. Wax-oil base: white ointment (*U. S. P.*):	
White petrolatum	85
Sulfonamide	5
White wax	5
Wool fat	5
Base 4. "Washable" oil-in-water base:	
Mineral oil	64
Water	23.45
Beeswax	5
Sulfonamide	5
Triethanolamine	2
Methocel	0.3
Sodium bisulfite	0.2
Aerosol OT	0.05
Base 5. "Washable" oil-in-water base:	
Water	71
Cetosten	15
Glycerin	5
Sulfonamide	5
Duponol C (principally sodium lauryl sulfate)	2
White wax	2
Base 6. "Washable" oil-in-water base:	
Water	74
Glycerin	10
Cetyl alcohol	5
Stearic acid	5
Sulfonamide	5
Amino Glycol (2-amino-2-methyl-1, 3-propanediol)	1
Base 7. Bentonite base:	
Water	85
Bentonite (BC Volclay)	10
Sulfonamide	5
Base 8. Sulfonated hydrogenated castor-oil base:	
Water	40
Petrolatum	25
Diglycol stearate	15
Sulfonated hydrogenated castor oil	15
Sulfonamide	5
Base 9. Vanishing-cream base:	
Water	65
Stearic acid	15
Glycerin	10
Sulfonamide	5
Tegin-P (propylene glycol monostearate)	4.15
Triethanolamine	0.85
Base 10. *U. S. P.* cold cream (modified base):	
Peanut oil	54
Water	19
White wax	11
Spermaceti	10.5
Sulfonamide	5
Sodium borate	0.5

It was found that heavy grease and cold cream bases yield little sulfonamide to an aqueous medium, whereas oil-in-water emulsion, stearate vanishing cream, bentonite and pectin jelly bases yield high levels of sulfonamide to such a medium.

In discussing these findings, Howard points out that sulfonamides applied locally can be expected to be therapeutically effective only if an adequate concentration of the drugs is maintained in intimate contact with the cutaneous lesion or wound under treatment. When a base so locks the sulfonamides suspended in it that the quantities released to a surrounding aqueous medium are so

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slight as to be practically negligible, it is extremely doubtful that this requirement will be met. Accordingly, it seems logical to avoid the all-grease or cold-cream type of base for the external application of sulfonamides if optimum therapeutic efficacy is to be realized. Besides obstructing the release of sulfonamides suspended in them, greasy bases have other disadvantages. First, they are not miscible with water or wound exudates. Secondly, it is difficult to bring about an adequate and uniform dispersion of insoluble drugs in bases of this type. Thirdly, their greasiness and stickiness are often objectionable to the patient. Finally, their removal is usually difficult and a frequent cause of pain.

The preparations, such as oil-in-water emulsions and aqueous jellies of the type made up with pectin or bentonite, that were found to liberate larger quantities of sulfonamides to an aqueous medium should, no doubt, be of greater value in local chemotherapy. One characteristic that these preparations have in common is miscibility with water. Hence, they serve to bring the medicaments they contain in suspension into close contact with the infected area under treatment; moreover, they can be easily washed off.

Under certain conditions it is desirable to use a preparation having a lubricating effect and in others one having a drying effect. An oil-in-water emulsion provides better lubrication than does a pectin or bentonite jelly, and possesses the additional important advantage that it prevents dressings from sticking. The aqueous jellies tend to dry out rapidly and may prove especially valuable on moist lesions, such as those of impetigo.

One Dose Penicillin Treatment

The treatment of chronic gonorrheal vaginitis has undergone rapid changes in the past few years. Sulfonamide therapy has brought rapid cure of this stubborn disease in the majority of instances. However, since several cases have been found to be sulfonamide resistant, estrogen therapy (diethylstilbestrol) has been recently advocated. With the advent of penicillin, it seems quite evident that this drug is by far the most effective and the safest to use in the therapy of gonorrheal infections. This is borne out in the report of W. Sako, R. Tilburg and J. Colley (*J.A.M.A* 128:508, 1945) on the one dose penicillin treatment of chronic gonorrheal vaginitis in children.

In their work, 16 cases of chronic gonorrheal vaginitis in children were treated with one dose of penicillin, 100,000 units injected intramuscularly. Clinical and bacteriologic cure was effected in 15 cases within three days, usually two days. The 1 remaining case required further therapy with divided doses of penicillin. Because of its safety and rapid cure penicillin is the drug of choice for the treatment of chronic gonorrheal vaginitis in children. One 100,000 unit dose of penicillin injected intramuscularly seems adequate in most cases. Hospitalization is not necessary.

Atabrine in Malaria Suppression

Writing in the *Journal of the National Malaria Society* (4:9, 1945), O. R. McCoy states that atabrine has proved much more effective than quinine for suppression of malaria and, in general, is better tolerated and preferred by troops. A most important experience gained is the demonstration of the effectiveness of atabrine in preventing the development of falciparum malaria. When atabrine is taken in doses of 0.6 or 0.7 Gm. per week during and for several weeks following exposure to falciparum infection, appearance of symptoms is consistently prevented not only during suppressive treatment but also after medication is discontinued. Suppressive doses of atabrine apparently act as curative doses in this type of malaria. In this respect atabrine is far superior to quinine. As a result of the extensive use of atabrine for suppressive treatment, falciparum malaria has been much less of a problem in the military forces than was anticipated at the start of the war. Vivax malaria, on the other hand, is suppressed but not cured by atabrine. Relapses of vivax malaria experienced after the cessation of suppressive medication constitute a major portion of the Army's malaria problem. In units heavily seeded with vivax malaria it may be neccessary to continue suppressive treatment in order to maintain military effectiveness even though no further exposure to infection occurs.

Evaluation of Totaquine

R. A. Green, in the *Bulletin of the U. S. Army Medical Department* (No. 84, p. 51, 1945) reports that during an eleven-week period, a controlled study was undertaken at a Station Hospital in a foreign theatre to evaluate the effciency of totaquine in the treatment of malaria. Totaquine in the dosage used caused disappearance of the malarial parasites from the blood stream in a time slightly greater than the time required by quinine and quinacrine. The action of totaquine in control of fever was identical with that of quinine and slightly more rapid than that of quinacrine. The incidence of toxic symptoms was about the same for totaquine, and quinine but the nausea and vomiting caused by totaquine proved more disagreeable than any toxic symptoms of either quinine or quinacrine. The incidence of side effects of quinacrine was low as compared with that of totaquine and quinine. The interval between attacks and subsequent relapses was shortest in totaquine-treated cases and slightly longer in cases treated with quinine. The intervals of relapse in quinacrine-treated cases were three times as great as those of totaquine-treated cases.

Hyoscine for Sea Sickness

Affirmation of the value of hyoscine as a means of preventing sea sickness results from an extensive study reported by I. G. W. Hill and A. I. Guest (*Brit. Med. J.* 2:6, 1945). The experiments on the prevention of sea sickness were carried out during the training of several thousand British and Indian troops in the use of assault boats or landing craft. In all experiments, control groups receiving inert pills were observed under conditions identical to those of the test groups. The drugs tested were: hyoscine; hyoscine plus amphetamine; hyoscine plus ergotamine; chlorbutol; and, ergotamine. After the findings had been assessed statistically, it was found that of the remedies tested, hyoscine, in a dose of 1/100 grain, was most effective. The degree of protection was of the order of four-fifths of those susceptible. This degree of protection was observed in relatively calm seas, when the sickness rate in controls was 16 per cent. In this dosage hyoscine appeared to have but little effect on the general efficiency of the troops.

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Aminoacetic acid	**131.5 Gm.**
Raspberry syrup	**75.0 cc.**
Syrup	**60.0 cc.**
Alcohol	**53.0 cc.**
Benzoic acid	**2.0 Gm.**
Compound orange spirit	**1.5 cc.**
Vanillin	**0.15 Gm.**
Distilled water, q.s. ad	**1000.0 cc.**

Dissolve the aminoacetic acid in 700 cc. os distilled water; add the syrup and the raspberry syrup and mix well. Dissolve the benzoic acid in the alcohol and the compound orange spirit; add to the previously prepared mixture. Filler, if necessary, and add sufficient distilled water to amke 1000 cc.

Penicillin Cream

In preparing a cream of penicillin for local application, writes G. L. Burns in the *Australasian Journal of Pharmacy* (26:34, 1945), the prime objective is to ensure that it is therapeutically active, also that the base chosen is of a smooth, soft texture; is as nearly as possible neutral in reaction; will withstand sterilization without much separation and afterwards easily re-emulsify, and then readily absorb the aqueous solution of penicillin. To meet these requirements, the following base was developed:

Glyceryl monostearate	**12.0**
Ointment of wool alcohols	**10.0**
Spermaceti	**5.0**
Liquid petrolatum	**2.0**
Glycerine	**3.0**
Chlorocresol	**0.1**
Distilled water, to make	**100.0**

To prepare 10 Gm. of penicillin cream (500 units per Gm.), 9 Gm. of the base may be placed in a half-ounce jar, and, with the cap (preferably non-metallic) placed lightly on top, autoclaved at twenty-pound pressure for twenty minutes. When cool, but not yet set, add a solution of penicillin (prepared by adding 1 cc. of sterile water to a 500-unit ampoule of penicillin); screw cap down firmly, shake vigorously until incorporated, then immediately place in a refrigerator.

This ointment has been used extensively at the Royal Adela'de Hospital and has proved therapeutically efficient. Samples of stock are tested regularly for potency. One sample, stored at 0°C. was still in good condition after four months. To ascertain the time it would retain its potency under extreme conditions, one sample was carried in the pocket and tested at weekly intervals. For six weeks it remained sufficiently potent for therapeutic use, from then on gradually losing strength, until at ten weeks it was useless.

Non-Caking Mineral Supplement

According to the claims of T. W. Schilb in U. S. Patent 2,365,438, the tendency of mixed mineral supplements, like calcium salts, to cake and harden when added to certain types of food materials may be overcome by the use of various inhibitors or anti-caking agents. For example, a mineral supplement, adapted to supply calcium and phosphorous to the diet may consist of a mixture of 15 to 40 parts of monocalcium orthophosphate and 85 to 60 parts of dicalcium phosphate dihydrate, plus a small amount (1 to 5 per cent based on the amount of dicalcium phosphate dihydrate present) of a molecularly dehydrated alkali metal phosphate as an anti-caking agent. Suitable agents include the anhydrous forms of tetrasodium pyrophosphate, sodium acid pyrophosphate, and tetrapotassium pyrophosphate, as well as the insoluble form of sodium metaphosphate.

These stable mixtures of calcium phosphates are claimed to be particularly adapted to serve as distributing agents for vitamins where these substances are to be added to the diet.

Booklet on Tryptophane

Noteworthy, in view of the growing interest in amino acids, is the announcement that copies of a review, "Recent Research on Tryptophane," covering 68 articles, most of which have appeared during the last two years, are being distributed by the Special Chemicals Division, Winthrop Chemical Company, Inc., Rensselaer, New York. The review presents a summary of animal and human requirements of this essential amino acid, data on its occurrence in natural proteins, and information on the role of tryptophane in bacterial growth, plant growth and other miscellaneous uses.

Sulfated Hydrogenated Castor Oil

According to the claims of G. W. Fiero, in U. S. Patent 2,361,756, superior qualities can be imparted to medicinal ointments and cosmetic creams by the use of sulfated hydrogenated castor oil, or SHCO for short. With SHCO as a non-irritating, hydrophylic base it is possible to prepare ointments and creams that are approximately neutral or slightly acid in reaction, stable against rancidity and separation, readily compatible with practically all medicaments, and easily removed from the skin by gentle washing with water. Examples of sixteen different types of medicated ointments and cosmetic creams are given in the patent.

For instance a smooth, simple ointment may be prepared with SHCO and white petrolatum in the proportions of 3:1. An emulsified simple ointment may be made from:

SHCO	**29 parts**
White petrolatum	**28 "**
Distilled water	**45 "**

Illustrative of the use of SHCO in cosmetics is the following cleansing cream:

White wax	**5 parts**
Spermaceti	**5 "**
Stearyl alcohol	**5 "**
White mineral oil	**40 "**
SHCO	**10 "**
Triethanol amine	**1 part**
Water	**40 parts**

Clearing the Way! Glycerine will help produce the vast quantities of explosives needed for postwar harbor clearance, building and rebuilding. One of the great reasons glycerine is used in making dynamite is that it doesn't separate from other materials.

The Road Back. The return to health is aided by C.P. glycerine, an important component in the making of many pharmaceuticals. Glycerine, the versatile solvent, humectant, carrier, has been proved safe in pharmaceuticals through generations of use.

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Glycerine is valuable not only in the making of alkyd resins, but in hundreds of other products. Its high viscosity, high solvent power, compatibility, nontoxicity, permanence, and other advantages make it a superior humectant, plasticizer, solvent, preservative, lubricant, hydraulic fluid, and component in many essential materials.

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Absorption Bases in Cosmetics

E. S. Lower (S.P.C. *18:299, 1945*) devotes his concluding chapter on wool wax alcohols chiefly to discussing absorption bases. Called superior alternatives to lanolin, absorption bases made their appearance in two main consistencies:

(A) A semi-fluid viscous mass.

(B) A semi-solid or waxy product.

Used alone or in conjunction with certain other emulsifying agents, wool wax alcohols and wool wax cholesterol, the oxidized products, etc., form the essential components of the majority of these bases. As is now well known, the major portion of an absorption base is always paraffin, either liquid, soft, hard or combinations of the three. Certain schools of thought point to these inclusions as being extremely foreign to the body and its fats, and that, for many purposes, fats more in line with the latter would be preferable, especially for the manufacture of biological products, such as hormone and vitamin containing preparations.

The word "absorption" refers to the water-absorbing or emulsifying properties of such bases and not necessarily to their action when applied to the skin, although in some studies of this aspect, it has been found that water-in-oil emulsions, and particularly those containing cholesterol and oxidized cholesterol, have greater penetrating power than pure fats and petrolatums. Good penetrating properties are in fact exemplified by some of the absorption bases.

The role of the modern absorption base seems now to include two main functions—(1) the original and still most important one of providing a neutral, odorless, pale base, containing a minimum of emulsifying agent and capable of absorbing and holding as a stable water-in-oil emulsion large quantities of water and aqueous solutions, glycerine, glycols, etc. In turn, these derived emulsions are required to be capable of having incorporated into them the widest variety of chemicals and chemical substances, especially acid substances, electrolytes, metallic salts.

The second, more recently utilized function of these water-absorbing bases is as a substitute for, or alternative to, cholesterol wool wax, wool wax alcohols, cetyl alcohol, spermaceti, etc. as agents capable of imparting emollient properties to certain types of cosmetics which naturally possess such desired and important properties.

The production of cosmetics of the water-in-oil type from these bases is usually simply a matter of mixing by suitable machinery (or by hand, with small quantities), small proportions of the aqueous ingredients into the fatty base, intermittently, so that one portion is thoroughly taken up before a further lot is added. The mixing should start with the fatty materials at 40° C., the water being at the same temperature, and should be continued until the emulsion is fairly cool, i.e. at 25-30° C. Water-soluble ingredients can be dissolved in a small portion of the total water to be used, and incorporated into the emulsion after the bulk of the water has been incorporated. Great improvements are effected in color, texture, and stability if absorption base creams are finally passed through suitable homogenizers. Resistance to higher temperature than normal is a particular result.

Oil-soluble additions are best handled by melting these with the absorption base, prior to the commencement of mixing. Many oil-soluble and water-insoluble materials can be suspended in these emulsions.

Providing pertinent data on the uses and advantages of absorption bases, lower presents a number of formulas utilizing these materials. In the following formulas, all parts are by weight:

All-Purpose Creams

	1.	2.
Absorption base (type A.)	4.0	15.0
Soft paraffin	7.7	40.0
Lanolin	4.0	7.0
Liquid paraffin	1.5	3.0
Glycerine	—	8.0
Water	20.0	70.0

Night Cream

Absorption Base (Type A)	60.0
Water	40.0
Glycerine	10.0
Hard Paraffin	5.0

Cleansing Cream

Absorption base (Type A)	15.0
Lanolin	5.0
Liquid paraffin	45.0
Water	45.0

Powder Cream

Absorption base (Type A)	73.5
Soft paraffin	49.0
Ozokerite	10.0
Liquid paraffin	7.5
Water	30.0
Powder	80.0

(The powder is ground into the emulsion after the latter has been prepared.)

Hand Cream

Absorption base (Type A)	22.5
Soft paraffin	15.0
Ozokerite	3.5
Liquid paraffin	5.0
Lanolin	4.0
Water	50.0
Zinc stearate	0.5
Zinc oxide	5.0
Color	q.s.

Hair Creams

	1.	2.
Absorption Base (Type A)	4	12.0
Stearyl alcohol	1	—
Beeswax	—	6.0
Lanolin	–	0.5
Liquid Paraffin	50	130.0
Water	90	60.0
Glycerine	—	3.0
Triethanolamine	—	0.5
Isopropanolamine	0.5	—

Sports Creams

	1.	2.
Absorption base (Type A)	24.0	24.0
Cetyl alcohol	1.0	1.2
Liquid Paraffin	5.0	10.5
Lanolin	3.0	—
Glycerine	3.0	3.0
Water	64.0	56.3
Hard paraffin	—	5.0

Cold Cream

Absorption base (Type A)	73.5
Liquid paraffin	7.5
Soft paraffin	49.0
Water	30.0
Ozokerite	10.0

Pre-Shave Cream

Absorption base	30.0
Liquid paraffin	5.0
Glycerine	2.0
Water	60.0

Absorption bases, simply perfumed, have been suggested as suitable eyelash and eyebrow applications, because of their emollient and lubricating properties.

Useful Emulsol Catalog

The Emulsol Corporation, 59 E. Madison Street, Chicago 2, Ill. has recently issued an interesting catalog on its synthetic organic chemical products. Many of the products listed, including a series of emulsifying agents and detergents, are of interest to both drug and cosmetic manufacturers. In addition to a discussion of emulsions, the catalog also presents excerpts from the Federal Food, Drug and Cosmetic Act and from the Insecticide Act of 1910.

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Brazilian Essential Oils

According to an item in *Chemical and Engineering News* (23:1202, 1945) on essential oils from Brazilian plants a native plant existing in almost the whole Brazilian territory and known as "capimcheiroso" produces the essence of vetiver. The oil is obtained by distillation and it is estimated that one metric ton of the root stocks of the plant will give from 5 to 6 kg. of oil.

The Brazilian clove tree furnishes by distillation of the seeds and bark a reddish essential oil largely used for the manufacture of perfumery and in medicine. About 4% of the oil is obtained by the distillation.

The *Stirax officinalis, L.* tree grows wild in Brazil. Three to 4 kg. of the milky gum are obtained yearly per tree and the essence is largely used in perfumery and soap-making.

Perfumer's Shelf

Beaver Castor Studies

In determining the acid constituents of beaver castor, E. Lederer (*Trav. membres soc. chim. biol.* through *Chem. Obstr.* 39:1448, 1945) extracted the hashed glands with ethyl alcohol and the residue left upon evaporation of the alcoholic solution was extracted with ether. The ether solution contained benzoic, hydrocinnamic, salicylic, anisic, gentisic and *m*- and *p*-hydroxybenzoic acids. These are presumably derived from the vegetable diet of the beaver, with possible partial reduction or oxidation in the body. In other animals they would be excreted in the urine but in the beaver they pass into the scent gland secretion.

Note on Orchids

According to a note in *Foreign Commerce Weekly* for March 24, 1945 Colombian orchid growers state that they cannot compete with growers in the United States either at present or in the future, the chief reason being that orchids are grown in the open in Colombia and produce heavily only in the months of February through May, whereas United States growers have greenhouses and can produce throughout the entire year. However, Colombian growers agree that with cheaper transportation and possible reduction in customs charges, an increase of at least 500 percent in exports is possible.

Physical Properties of Volatile Oils

An investigation was undertaken by L. Fischer, P. A. Tornow and B. L. Proper (*Bull. Nat. Formulary Comm.* 13:6, 1945) to obtain information on the variation in the oil content and range for the physical constants of the volatile oils obtained from various aromatic drugs. The drugs used were obtained from the Food and Drug Administration, New York Station, various crude drug firms, and a few samples were obtained locally. It is unfortunate that no information regarding the commercial origin is available, as the drugs from different sources give variations in the yield and in the constants for the oils. Since the samples were obtained from several reliable sources, these materials can be considered as being representative of those appearing on the market.

The drugs were distilled as specified in the Clevenger procedure, the oils dried with anhydrous sodium sulfate, and the constants were ascertained using official methods as designated by the Association of Official Agricultural Chemists or the United States Pharmacopoeia. Oil content and physical properties for each sample tested is listed in the original report, together with minimal, maximal and average values for each oil. In the condensed table following, only average values are given.

Oil of Cedarwood

Oil of cedarwood is distilled from the fragrant red core wood of *Juniperus virginiana.* L., which grows in most areas of the Southeastern states. In many cases the oil is a by-product of the distillation of the waste from lead pencil manufacturing, but the bulk of the oil is obtained from regular distillers. Production is over one-half million pounds per year.

The oil is an excellent fixative for soaps and because of its low cost finds many uses in inexpensive formulations as well as in moth and other insecticidal sprays. The organic chemist has been able to make several interesting products from oil of cedarwood; among them being cedrol and cedryl acetate. Both are finer and more delicate in odor than the natural oil and have been used as ingredients for synthetic Vetiverts and Patchoulys when these two oils became scarce. The cedryl acetate works exceptionally well in pine bouquets along with such products as isobornyl acetate and Oil of Cedarleaves. There has been such a demand for all three products that there is a decided scarcity of cedarwood oil at present. There is also the possibility that other products will be developed from this oil when the research chemists set out to discover them.

Oil of Cedarwood, Oregon (Port Oxford cedar) is an entirely different species and does not resemble the Virginian type either in physical constants or in odor. The odor is in no way as pleasant and very little use has been found for the product from this species. It might be of interest to examine this oil with regard to its use as a possible source for cedrol and cedryl acetate. To date this does not appear to have been done.

Camphor from Camphor Basil

In a detailed discussion of the possibilities of obtaining camphor from camphor basil (*Ocimum kilimandscharicum*, Guerke), M. S. Lowman and J. W. Kelly (*J.A.Ph.A.* 34:153, 1945) note that camphor occurs in nature in the essential oils of many plants but all commercial supplies of natural camphor come from the camphor tree, *Cinnamomum camphora* (L.) T. Nees et Ebermaier (*Laurus camphora* L.). Japan has long been the sole supply of this important product, obtained by distillation of the wood and leaves of this tree. The insecurity of complete dependence on a single foreign source was recognized many years ago before the produc-

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LILY OF THE VALLEY...

YEARS AGO, Fritzsche chemists developed a synthetic lily of the valley base that was recognized by the trade as outstanding. As its employment broadened, it was found to be not only an ideal lily base, but also a remarkably fine blending agent, adaptable to a great variety of floral compositions with noticeable improvement of effect. The odors took on new life, were more flowery and much more lasting. As time passed, even this excellent synthetic was improved with the result that our FRITZBRO SYNTHETIC FLOWER OIL LILY OF THE VALLEY is today a wellnigh perfect reproduction of the fragrance of the natural, living flower. It is recommended to the creative perfumer as a most useful addition to his stock of compounding ingredients and one that will prove its value time and time again. A trial sample awaits you on request.

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An interesting modifier and fixative. This specialty produces a pleasant, warm, ambre note as well as fullness, strength and fixation. It is suited particularly to French type bouquets and is useful in bouquets lacking in basic notes. It imparts a definite and appealing character. Depending upon the type of odor and composition in which it is used, AMBRONIA may be employed in amounts ranging from 5 to 20%. In heavily odored floral bouquets, 1 to 2% is ordinarily quite sufficient.

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For that "green" effect in your floral composition, try VIRIDIA. But use it sparingly! It is very powerful and, consequently, economical. From 1 to 3% is usually sufficient to modify a composition and obtain the desired effect. It may be used, also, to modify the floral note in bouquets or the citrus note in colognes and in cologne bouquets, toilet waters and lotions. It produces attractive, new and difficult-to-duplicate effects not ordinarily found in the latter types of preparations. Write us if you'd like a sample.

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ONE BASE, TWO MODIFIERS....

BESIDES supplying uniform, high quality basic materials to the perfumer, there is another interesting phase of our business that has important bearing on his work. This involves the creation of synthetics, aromatic specialties and other odor-enhancing compounds designed to lend added beauty and distinction to his finished compositions. In our experimental perfume laboratories, literally thousands of these complex materials have been developed over the past few years. Three of these—one, a delightful floral base and the others, interesting modifiers—have been singled out for special mention because of their adaptability to so many of the present day types of odors. After reading more about them on the inside page of this insert, we'd like you to try them.

PLEASE UNFOLD THE PAGE

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AS the trickle of natural materials from abroad begins to be felt in home markets, the multiplied demand for synthetic substitutes will slowly subside. But because they measure up to or surpass the genuine either in quality of effect or economy of use, some of these laboratory-made substitutes will continue in steady demand. ROSANLIK, our new Otto of Rose replacement, is such a product. Moderately priced, this remarkable duplication of the natural oil will enable perfume manufacturers to produce rose compositions that are characteristically correct at a cost that will compare favorably with similar compositions based upon genuine Otto of Rose. Let us better acquaint you with this long-needed, synthetic oil.

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FACTORIES AT CLIFTON, N. J. AND DEILLANS (VAR) FRANCE

tion of synthetic camphor became a commercial possibility. About 1905 the Bureau of Plant Industry began a study of the possibilities of growing the camphor tree in the southern states.

Attempts at commercial utilization of the findings were abandoned because of high costs and the competition from the synthetic product. At present the principal commercial supply is synthetic camphor manufactured from pinene obtained from the oil of American turpentine.

The fact that camphor occurs as such in nature in varying amounts in many plants has not been lost sight of in the search for other practical sources of this important product. It is obvious that a herbaceous plant that gives a high yield of "natural" camphor and that can be grown in one season as a farm crop would have certain advantages over the camphor tree which requires several years to come into production or even synthetic camphor which is also dependent on plant products requiring a long time for growth. For this reason an *Ocimum* species, the volatile oil of which has been found to contain a high percentage of camphor, has attracted much attention.

The results of preliminary experiments on the culture of camphor basil (*Ocimum kilimandscharicum*) indicate that under favorable conditions it has possibilities as a domestic source of natural camphor. The growing season is 120 days or more and it appears that this plant might be grown as an annual crop in some localities or possibly as a perennial in southern sections where the ground does not freeze. The cost of handling the crop in the south as a perennial should not be greater than that of mint in the mint-producing sections of Michigan and Indiana. As an annual the cost no doubt would be somewhat greater. The average yield of peppermint oil in those states is 30 to 40 pounds while camphor basil may be expected to yield from 200 to 300 pounds of camphor-oil mixture per acre. On this basis the cost of producing camphor basil oil would be about one-seventh the cost of peppermint oil. A price of about 40 cents per pound for camphor basil oil would be equivalent in returns per acre to $3.00 per pound for peppermint oil.

By steam distillation the fresh flowering herb yielded 0.5 to 1 per cent oil including the camphor. Calculated yields from small experimental plots ranged from 100 to more than 300 pounds of camphor-oil mixture per acre. This semi-solid mixture contained 50 to 70 per cent of camphor which was easily separated from the oil portion by repeated cooling and centrifuging. The physical and chemical constants of the purified camphor agreed closely with commercial natural camphor.

Of pertinent interest is the observation that the several species and varieties of *Ocimum* produce oils possessing a variety of odors and flavors, some of which are used as flavoring and scenting agents. The oil of the common sweet basil (*O. basilicum* L.) is used in the flavoring and perfuming industry because of its pleasant spicy odor and taste. Oils produced from other species resemble in odor and flavor the oils of cinnamon, cloves, lemon, and thyme because of certain dominating chemical constituents common to both.

Bay Oil from Puerto Rico

In discussing the production of Puerto Rican bay oil, the chief ingredient of bay-rum, N. F. Childers and P. S. Robles (*Agric. in the Americas* 5:132, 1945) point out that this essential oil is distilled from the leaves of the bay-rum tree *Pimenta racemosa* (Mill.) Moore, not to be confused with the true-bay tree, which is a laurel. The bay-rum tree is indigenous to the West Indies and now can be found growing in many of the neighboring Latin American countries. In addition, several other varieties of bay have been described, including one known as lemonscented or *limoncillo*, which are not desirable for market.

In Puerto Rico the bay-rum industry is limited to a few scattered growers in the central and southern sections of the island, mainly in the southeast. The exports of bay oil and bay rum, practically all of which go to the United States, have varied annually between 2,000 and 25,000 pounds of bay oil and 4,000 and 16,000 gallons of bay rum. The amount of bay oil the market can absorb is limited. Overproduction would, therefore, be quite possible, unless a definite sales program were initiated to increase consumption and promote other uses of the oil, such as flavoring for sauces and using the extracted eugenol in carnation perfumes.

Two methods of harvesting are employed. In one method, leaves are stripped from the trees, few limbs or shoots being removed except those at the top, which are pruned to keep the tree low. In the other method, both shoots and leaves are removed and tied in bundles for transportation to the distillery. Yields of fresh leaves per acre may be from 10,000 to 30,000 pounds. The larger growers in Puerto Rico report for their *fincas*, as a whole, around 15,000 pounds an acre. Yields are usually higher for trees planted at the base of hills where moisture and soil conditions are better.

Leaves are usually held in a bin for about 3 days after harvesting before being processed. This seems to increase the yield of oil and makes easier the handling of the leaves. The leaves are crushed and bruised by passing them through a chopper much like a corn shredder. The chopper is located above the distillllng vat so that the crushed leaves fall down a chute directly into the vat, where they are packed moderately. The vat is filled half full of water from a spring or a nearby stream and is sealed. Live steam is then introduced into the vat through a pipe and passes through the leaves and water for about 5 hours, depending upon the size of the still. The resulting vapor, carrying the oil from the leaves, passes into a condensation tank, where the oil is drawn off. Perhaps the name bay rum comes from the fact that bay leaves used to be distilled in rum and water. Most of the oil is released during the first 2 hours of distillation, but that which follows later is higher in phenol content and is more valuable.

Constitution of Natural Coumarins

In discussing the constitution of natural coumarins isolated from *Luvanga scandens*, Ham., P. K. Bose and A. Mookerjee (*J. Indian Chem. Soc.* 21:181, 1944) report that the crushed mature berries of this plant, on extraction with petroleum ether, yield a greenish brown oil from which four crystalline, neutral compounds were isolated and which were totally absent in the unripe samples. These were: (1) xanthotoxin, melting at 145°C, and crystallizing in long, slender, colorless needles. The yield was 0.1 to 0.4 per cent; (2) xanthyletin, melting at 128°C., and forming stout rhombic crystals. Its yield was 0.05 to 0.06 per cent. The tetrahydro derivative, prepared by hydrogenation over palladium-charcoal, melted at 158°C.; (3) isopimpinellin, melted at 151-2°C; and, (4) luvangetin, obtained in a yield of 0.08 to 0.5 per cent, forming colorless plates obtained with difficulty by slow crystallization from methanol and separated from the other constituents mechanically. Catalytic hydrogenation with palladium-charcoal yielded dihydrocoumarin, melting at 131°C.

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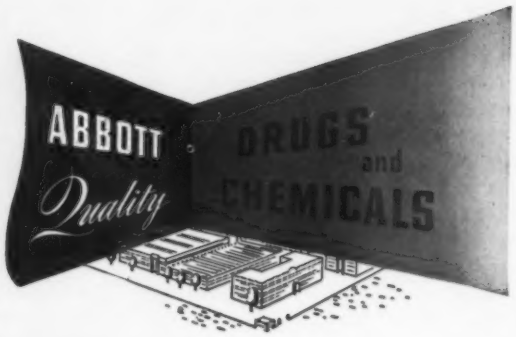

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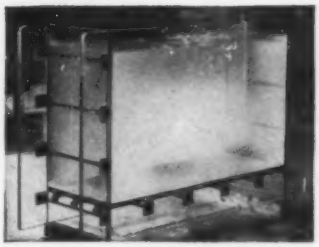

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Government Control Lifted On Many Fine Chemicals; Menthol Drops Sharply As Brazil Unloads

The features of greatest importance in the fine chemicals market during the period under review was undoubtedly the action taken by the War Production Board to return the industry to freedom from government control, and the ending of lend-lease by order of the President.

Among the articles to be decontrolled on August 31 were acetone and diacetone, acetaldehyde, alkamolamines, alkylamines, butyl acetate, butyl alcohol, citric acid, cod liver and halibut liver oils, emetine, ethyl acetate, ethyl ether, formaldehyde, glycol ethers, hexamethylenetetramine, hydroquinone, isopropyl acetate and alcohol, methylethyl ketone, methylisobutyl ketone, peroxygens, pentaerythritol, quinacrine, trichlorethylene, and perchlorethylene, toluol, benzol, xylol, barium chemicals, urea, copper chemicals, carbon tetrachloride, and potassium carbonate. Bismuth chemicals and glycols were scheduled for decontrol on September 30.

Government stockpiles of some of these items exist. Cancellation of orders is going to affect the amount of material available. The ending of lend-lease is also likely to add to the supply problem which manufacturers must soon face if they are to keep their plants in operation.

Menthol Drops Sharply

Menthol has held the attention of the trade here as the result of a persistent drop in prices. Currently the article is offered on spot at $5.50 per pound. This represents a decline of $2 a pound during the past 30 days.

The decline in Brazilian menthol was due to reports reaching local houses to the effect that the minimum export floor price of $19.50 per kilo had been cancelled by the Brazilian Government. It was stated that firm offers had been received from the primary center at $9.10 per kilo f.o.b. Brazil. This would be equivalent to about $4.80 per pound duty paid, New York.

The early termination of the war has also tended to give some hope that China may be in a position to send some menthol to this market next year. China had increased its exports to this country to the extent that she played an effective part in establishing spot market prices here. Japan, which normally supplied the bulk of menthol imports into this country, will undoubtedly under the influence of the forces of occupation, again resume shipments to this market.

AUGUST PRICE CHANGES

UP

Balsam Tolu 95c
Bergamot oil $1
Camphor oil white 3c
Cascara 10c
Ergot 5c
Geranium oil African $3.75
Papain 25c
Plantago seed 1c
Turmeric root Madras 2c

DOWN

Aloes, Curacao 3c
Buckthorn bark 14c
Ginger oil 25c
Lycopodium 50c
Menthol natural $2
Mercury $18
Myrrh gum 10c
Peppermint oil natural 25c
Redistilled 40c
Scammony root 1c
Tragacanth gum No. 1 10c
No. 2 50c
Turmeric root Aleppy 2c

• **Prices quoted in this section were current on the first of this month.**

Since production of menthol in Brazil this year is estimated at about 300 tons, and since the annual consumption in the United States does not exceed 200 tons it would appear that the price movement as witnessed during the past several months has not as yet run its full course.

Spanish Olive Oil Scarce

Trade hopes for early improvement in the olive oil supply position now appear remote, according to reports reaching here from Spain. Up to a short time ago there were intimations that possibly some oil would be offered for shipment from the new pack but it now appears that another year at least will go by before substantial exports are possible.

One of the leading import houses reported that it had received word from principals in Spain that in the Province of Jaen, the largest producing area in that country, the olive crop is practically a complete failure.

Estimates are that the new Spanish olive oil production will total only 230,000 tons, whereas normal home consumption is 290,000 tons. The belief is that no carryover prevails for the production of olive oil last year was also somewhat below home consumption.

Even if it were possible to export olive oil from Spain to this country, such movement would not be allowed unless there was an equal quantity of vegetable oil exported from here to Spain.

Until recently the olive crop outlook in Spain was reported good, and there were prospects of a yield of some 350,000 tons of oil. Importers here had believed that this would allow for fair imports without corresponding exports of vegetable oils from the United States to Spain. The spot market was unchanged at this writing with prices nominal due to the absence of offerings.

Mercury Down

Reorganization of mercury production in Italy and the return of the Spanish metal as an influence on world

(*Continued on page 403*)

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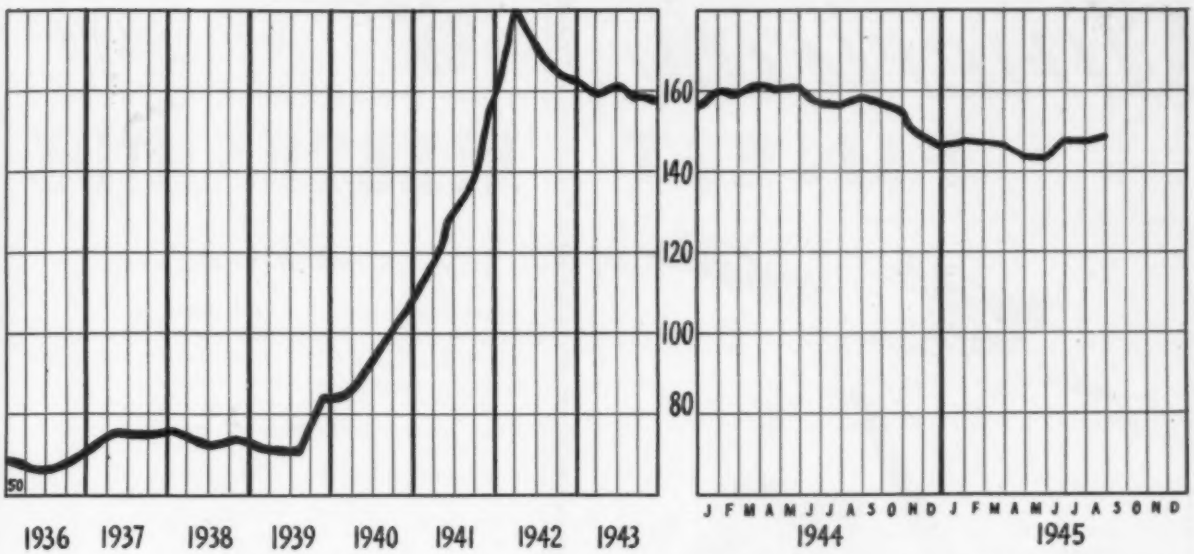
50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for August advanced fractionally from 150.1. to 151.8

Production of Aromatic Chemicals To Start Upward As Controls Lift and Labor Becomes Available

Removal of restrictions on practically all chemical raw materials, coupled with expectation that the balance will be freely available within a relatively short time, plus the improved labor situation, makes it appear reasonably certain that the production of aromatic chemicals should again be back to prewar levels within the next three or four months.

Certain imported raw materials are, however, still in very short supply, notably Java citronella oil, lemongrass oil and oil of bois de rose. While this scarcity exists, the derivatives of these products will continue to be practically unavailable. With these exceptions consumers of aromatics can, therefore, look forward to nearly normal conditions for the future.

Peppermint Oil Free of Control

Peppermint oil is freed from allocation as of August 31, but the supply is not expected to improve immediately, except to the extent that cancellation of lend-lease will decrease exports.

The trade would greet with more enthusiasm a decision by OPA to remove price controls and some observers believe that a move in this direction will be made in the not too distant future. Some oils have specific ceilings but the majority of them come under the General Maximum Price Regulation. Any decision that OPA may make concerning price control of essential oils will probably be based on the improvement of supply conditions.

Spearmint oil is in very short supply. Some suppliers are selling limited quantities of the material at a nominal price of $4 a pound as an accommodation to consumers. In the trade the above price is considered profitless to the supplier but is in line with existing price regulations.

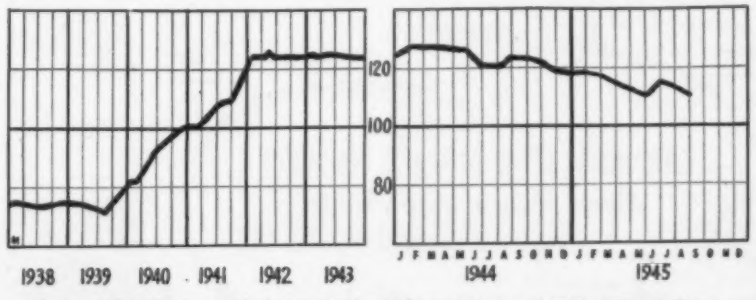
Essential Oils Produced in Ukraine

There are various areas along the Black Sea coast, in the Crimea and in the Ukraine where large areas were used for the cultivation of roses, lavender, and other plants for the aromatic oil industry. It is hoped that this industry will be restored to its prewar status within the next two or three years, and a considerable expansion beyond that is envisaged. Large areas on the lower stretches of the Ukrainian rivers and in the Crimea are reported to have been planted with oil yielding flowers and shrubs, and mint, cummin, and coriander are also grown. Before the war when the Ukraine was virtually the only supplier of aromatic oils in the Soviet Union 27,000 hectares were devoted to this cultivation, and some 300 tons of essential oils and 700 tons of fats were produced. Some of the oil distilleries are even now in full production.

Oils From Europe

A scarcity of flowers, fats and solvents for extracting purposes delays an increase in the output of essential oils in

15 Medicinal Chemicals—Weighted Price Index. 1926=100.



The medicinal chemicals index declined from 129.3 to 125.7. Menthol was lower at $5.50; mercury dropped to $125.

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France, according to trade representatives recently returned from Europe. Moreover, a coal shortage there, which is expected to continue through the winter, may substantially reduce the quantity of essential oils distilled in the next several months. But trickles of oils have come from Europe and it is certain that such supplies as can be distilled over wood fires by farmers in the fields may find their way to this country.

Bergamot Needed

There is not too much Italian oil of bergamot unsold in the hands of dealers, and numerous former suppliers are understood to be interested in getting further quantities despatched from the source. The present trend in government suggests an early and complete withdrawal of government agencies from import transactions. Once normal ways of trade are restored local stocks will build up quickly.

Anise Oil Again

The Chinese army will soon occupy the territory in which this oil is manufactured in China. Defeat of the Japanese bring much closer the time when exports of natural anise oil may be resumed.

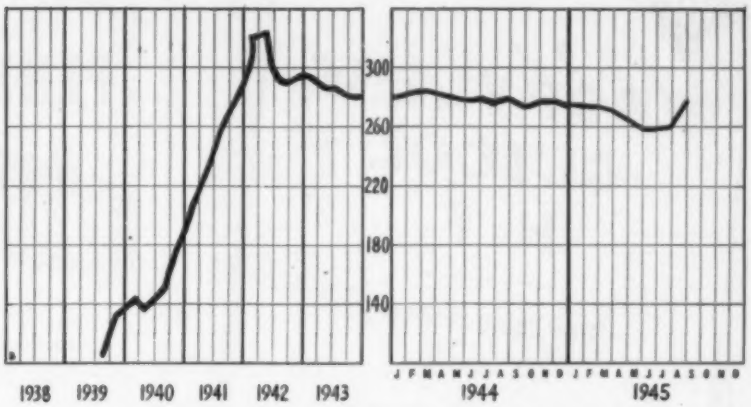
Bois de Rose Scarce

Spot dealers are starving as far as a supply of boise de rose oil is concerned and an empty market seems likely to continue for some time to come. When shipping to South America again becomes somewhat near normal, arrivals of bois de rose oil will undoubtedly go immediately into the hands of manufacturing consumers.

Miscellaneous

Latest shipping prices on Ceylon citronella oil are up sharply. Among the seed and spice oils, ginger continues to be offered quite freely at the lower prices recently established. Some fresh lots of eucalyptus oil have arrived here. The entire crop of California orange oil is reported sold. The situation widh regard to oil caraway is easier. In some instances local houses have restored the article to more attractive levels ranging from $17 to $17.50 a pound. Offerings of cubeb and cinnamon must await reorganization of the primary market in Java under Dutch control. Lavender oil supplies are low despite moderate sized arrivals from Spain.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index advanced from 268.4 to 281.6. Tolu Balsam was much higher at $1.75; cascara rose to 42 cents; ergot was up to $1.15.

CRUDE DRUGS

There have been so signs of recession in buying of botanicals despite the ending of the war and no price recessions of consequence. No improvement in the supply of botanicals is expected this year. The duration of the war in Europe largely prevented gathering and shipping of this year's crop and little in the way of imports is expected before the 1946 crop is available. It is not generally felt that a larger supply of labor will be available here in the near future for the gathering of domestic botanicals than there has been during the war.

Vanilla Tight

Dealers' stocks of vanilla beans are reportedly low. Shipping charges are high are result in a price which importers feel cannot be paid under the existing price regulations. The Mexican crop of beans is below normal, according to recent advices, and no beans are now afloat from Madagascar. Of the export quota of 700 tons for the two-year period July 1944/July 1946, set by the French Colonial Government, 450 tons have been shipped and the remainder purchased.

Cinchona Source

On March 12, 1943, an understanding was reached between the Costa Rican and United States Governments to establish a cinchona-bark industry in Costa Rica. The industry was to be started from seeds brought over from the Philippines in the early days of the war.

A farm in the San Antonio district near Turrialba was chosen as a temporary bed for the cinchona seedlings until a permanent location could be selected. By the end of May 1943, 100,000 seedlings had been shipped by plane and were planted immediately. Early in 1944 a farm located on the slopes of the Volcano Poas was chosen as the permanent site. A contract was entered into in March 1944 between the Costa Rican Government and the Defense Supplies Corporation providing for the establishment of the American Cinchona Plantation on the site selected.

Waxes Confused

The situation on carnauba wax and ouricury wax are causing importers considerable trouble since there are no spot stocks available and there seems to be little possibility of replacement within the buying limits fixed by OPA. When informed of the serious situation confronting the trade here the OPA is reported to have explained that there was no shortage of wax because the Department of Commerce figures indicated imports about in line with previous years. The trade generally agrees that the information regarding imports is correct but there is no wax for sale here and little opportunity of obtaining any until such time as price control by the OPA is ended or changed.

Cascara Higher

The primary market position is one of great strength based on subnormal peeling and advancing prices at the source. Spot quotations now prevail at a range of from 42c to 43c per pound.

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Ipecac Outlook

If Brazil makes good on her program, export of Matto Grosso ipecac root will stop in 1946. This is the root desirable for making emetine. Brazil wants to take over the emetine business of the world. It remains to be seen if manufacturing processes can be cheapened here sufficiently to make the lower test root from Nicaragua satisfactory to the American producers of emetine.

Goldenseal Scarce

Goldenseal root is in very low supply and likely to remain so for some time to come. Many cultivation projects here were abandoned during the war period. It is a three-year crop and unless cultivation be resumed, shortage in stocks is likely to be the rule when Europe is again able to buy.

Miscellaneous

Chamomile is expected from Europe this year. The bulk of Argentinian flowers have been sold to European consumers and it is believed that not much of the Argentine type will be shipped to the United States this year. Orris root of Italian origin is being offered on spot for the first time in over two years. Current prices on senega root are still regarded as too close to shipping prices received from the Northwest. Ergot is firm at the higher levels reached during the past month. Present prices on gum arabic remain close to replacement costs. Prices on wormwood are far above normal, but as supplies here are increased by imports from Europe a downward trend seems likely. Stocks of domestic belladonna have declined.

FINE CHEMICALS

(Continued from page 397)

markets may have a marked effect on American mines which supplied all of this country's needs in addition to some of the requirements of our Allies during the war. A cartelization of Italian and Spanish producers is a possibility which is said to be giving some concern to United States producers who also see the substantial resources of China as possible competition for world markets. Mercury consumption during the war was of record proportions. Consumption in May was 8,900 flasks. The battery program was chiefly responsible for the increased use. Use of mercury in some other applications declined.

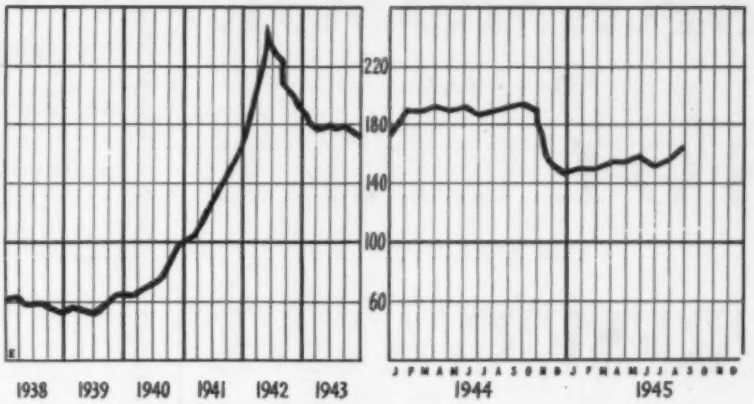
It is estimated that more than 23,000 flasks have been imported since the first of this year. Reconstruction of mines in Yugoslavia have started and it is reported that good progress is being made in the work. Some of the mines were flooded by the Germans. One of these is now producing more than half its prewar output.

Pricewise the market for mercury has changed materially. At the start of the year prices ranged from $140 to $145 per flask. By February, however, the market had advanced to $170 a flask as the result of heavier demands for mercury oxide for use in the manufacture of a new dry cell battery. Since then, however, the influence of supplies of mercury from other than domestic sources has softened the market. Spot prices are now at a new low level for this year at a price range of from $125 to $130 per flask.

Quinine Released

It is understood that the War Production Board is allocating supplies of quinine sulfate U. S. P. XII, when the material is to be used as an antimalarial agent and other essential medicinal needs.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oils index advanced from 154.4 to 161.3. Bergamot jumped to $11; Geranium was higher at $15.75; peppermint declined to $7.

Penicillin Unsettled

Various prices are being quoted on penicillin and the over-all position of the market continues highly unsettled because of competitive conditions. Advices from abroad state that production of penicillin is likely to get under way in Sweden before the end of the year. It is anticipated the output will be sufficient to meet that country's requirements, being estimated at about 200 kilogs. annually.

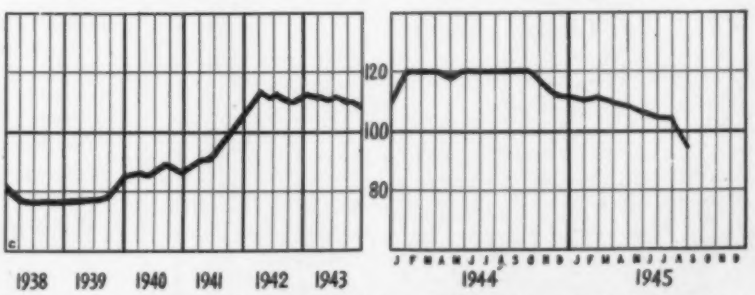
Citric Acid Controls Lifted

Citric acid controls were lifted as of August 31. Producers say that orders allocated or promised for September delivery will be shipped as promptly as material is available. Consumers are advised to order the acid as soon as possible for shipment in the fourth quarter.

Natural Camphor Again?

Formosa is expected to pass back to China from whom the country was taken in 1895 by Japan. This would again give China control of the primary camphor market.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index declined from 111.7 to 99.1. Tolu Balsam was higher at $1.75; menthol dropped sharply to $5.50 and gum tragacanth was lower at $3.90.

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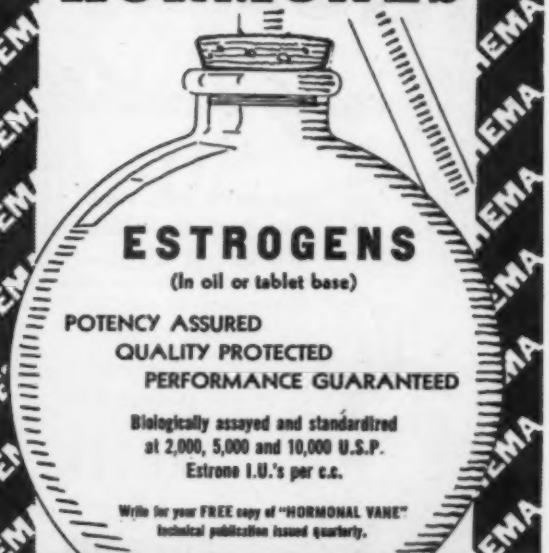

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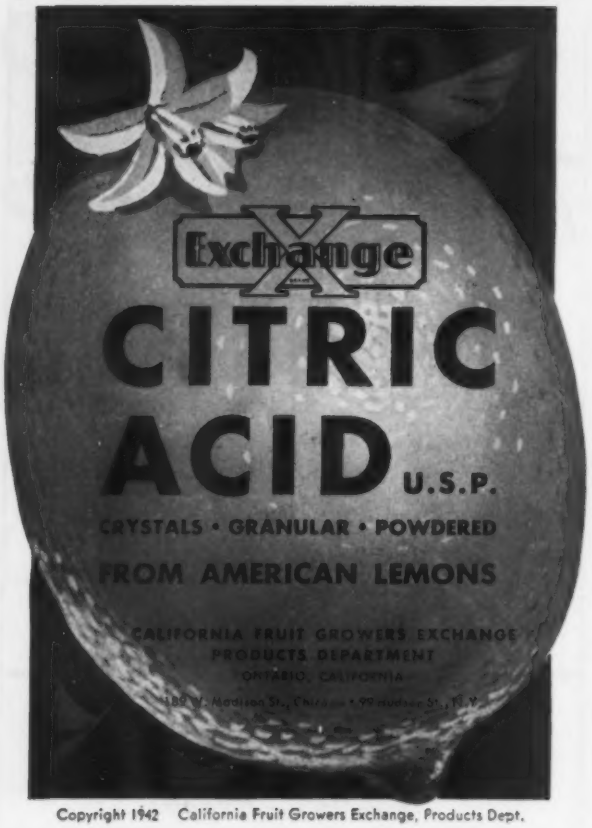

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Wound Healing

(Continued from page 325)

growth from the wound could be obtained. In considering the effect of the sulfonamides on wound healing, the author observed that after five days the wounds looked clean and quiescent. After ten days the tissues looked much healthier and appeared to be well on the road to recovery.

A symposium on wound healing conducted by members of the Royal Society of Medicine, Section of Therapeutics and Pharmacology[10] concluded that sulfanilamide, in particular, has many values of interest: (a) low affinity for tissues and serum proteins; (b) diffusability; (c) innocuity for leucocytes and fibroblasts.

Hawking[11] published a worthwhile report on the advantages and disadvantages of sulfanilamide and related compounds in the treatment of wounds. He pointed out that sulfanilamide has the advantages of economy, high local concentration and greater penetrating and diffusing powers. On the other hand, it has the disadvantages of rapid disappearance from the wound, and lower bacteriostatic activity against many of the organisms which may inhabit wounds. This English investigator found that sulfathiazole persists in the wound for a longer period and its bacteriostatic activity is much higher. It has the disadvantage though of low concentration and diffusibility. Hawking came to the conclusion that a combination of sulfathiazole and sulfanilamide was better than either one alone.

In 1929, Alexander Fleming discovered the remarkable germ-killing properties of penicillin. Since that time, much progress has been made in the field of antibiotics. Probably the two antibacterial substances which are of greatest practical value at the present time are penicillin and tyrothricin. For long range purposes, penicillin is probably the more important.

Dubos of the Rockefeller Institute for Medical Research has been a very active investigator in studying soil bacteria. He isolated an active substance, tyrothricin, which could be further separated into crystalline fractions among which was gramicidin.

Tyrothricin containing both gramicidin and tyrocidin has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association.[14] Tyrothricin is ineffective when given by mouth, and both dangerous and ineffective when given intravenously. Tyrothricin has proved valuable on local application, but must come into actual contact with bacterial organisms to be effective.

Tyrothricin is now available in most drug stores. It is used in dilute isotonic solutions. It is applied as a wet dressing, irrigation or by instillation. Many reports have appeared citing tyrothricin's effectiveness in the treatment of wounds, infected ulcers, empyema, sinusitus and other infections known to be due to certain species of streptococci, staphlococci and similar organisms.[15, 16, 17, 18, 19]

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local application of penicillin have come from the Floreys.[20] They treated 172 infections of the eye and mastoid process, in chronic wound sinuses and in miscellaneous septic conditions. In some cases, the hygroscopic sodium salt was used, but the calcium salt is superior because it can be handled so much more easily. The problem of using penicillin locally resolves itself into devising some means of applying a very soluble and diffusible substance so that a bacteriostatic concentration is constantly maintained at every point where there are infecting organisms. Unless the whole area involved can be reached, it is considered inadvisable to employ penicillin. In view of this, local application must therefore be accompanied by suitable surgery as indicated.

The Floreys used penicillin, as an ointment, by dissolving the powder in distilled water and incorporating the solution into a vaseline-type base in strengths of from 600 to 800 units per Gram. The frequency of application varied but the penicillin ointment was generally used at hourly intervals in the more severe cases, and less often as the condition improved. The Floreys concluded the results were quite encouraging although they appreciated the series would have to be enlarged to make it significant.

Due to the fact that the supply of penicillin has been limited, clinical research on its local application has not been extensive. Further, what observations have been made indicate that the more stable calcium salt is probably better than the sodium. It is hoped that with the release of penicillin for topical use more attention will be given to its effect on the healing of wounds.

Fishermen and their families along the Atlantic seaboard long ago recognized the virtues of cod-liver oil in the local treatment of accidental wounds. From the pages of fishlore, cod-liver oil has made a rather impressive bibliography for itself in medical literature.

Although its action is not clearly understood, a survey of the literature indicates that cod-liver oil has the following advantages in the treatment of wounds: (1) does not harm delicate tissues; (2) promotes granulation; (3) stimulates epithelialization; (4) has bactericidal properties.

Many theories have been postulated to explain the influence of cod-liver oil on the healing of wounds. Brandaleone and Papper[21] are of the opinion that the fatty acids present in cod-liver oil might be the factor. Lohr, Sandor and others[22] apparently believe that the therapeutic value of cod-liver oil resides in its vitamin A and D content. More investigation is necessary before it can be said with assurance that any one factor is responsible for cod-liver oil's wound healing properties. Probably we will find a combination of well-balanced factors working together to give a synergistic effect.

Dann and Glucksmann[23] summed up the present thinking regarding cod-liver oil when they said: "In general, cod-liver oil, its fractions and the substances related to its components seem to act as mild irritants which benefit healing by stimulating the formation of

connective ('granulation') tissue. While there is no experimental evidence that cod-liver oil has a direct influence on epithelialization, in clinical practice it may indirectly promote this process by providing a satisfactory connective-tissue basis."

As pointed out by Bruger[24], aside from the local factors, the rate and efficiency of tissue repair are to a large measure dependent upon: (a) the protein concentration of the serum; (b) carbohydrate metabolism; (c) ascorbic acid content of the tissues, and (d) calcium and phosphorus metabolism, in the case of fractures.

Most surgeons appreciate the importance of building up the nutritional state of the patient before operating. The Committee on Chemotherapeutic and Other Agents, and the Committee on Surgery, of the Division of Medical Science, National Research Council[25] reported that a reduction of vitamin stores in the body, particularly of vitamin C, will interfere with normal wound healing. They recommended that all wounded and burned patients receive multivitamin therapy.

Vorhaus[26] in a review on the use of vitamin therapy in surgical practice pointed out the importance of adequate vitamin intake. We emphasized that a subclinical state of deficiency coexists with so many surgical states that vitamin therapy is becoming increasingly important in surgical practice. He recommended multivitamin therapy pre and postoperatively. Vorhaus concluded that hypervitamin therapy is indicated in the routine preoperative preparation of all surgical cases, as well as in the debilitated and malnourished patients. Patients requiring biliary tract or gastrointestinal surgery present special indications for multivitamin therapy.

Faulty wound healing is a frequent occurrence in patients with low serum protein levels, although, obviously, other factors may also be involved. As early as 1919, Clark[27] showed that a low protein diet increases the "lag" period in the healing of experimental wounds in dogs. Others[28, 29, 30] have presented experimental data showing that the normal healing of wounds or fractures is delayed by low protein diets. In 1938, Thompson[31] showed that human wound healing was also adversely affected by hypoproteinemic patients compared to a low incidence in normal patients. This observation has been confirmed by others.[32] Depleted protein stores have also been associated with the failure of skin grafts.[33] It should be borne in mind in this connection, that most foods rich in protein furnish nutrients other than protein. Hence, diets deficient in protein are likely to be deficient in some of the other nutrients which play an essential role in wound healing.

As pointed out by Bruger,[24] tissue and plasma protein deficiency may occur despite adequate protein intake, because the enzymatic hydrolysis of protein and the absorption of amino acid end products may be interfered with. Then again, protein synthesis by the liver may be impaired. It has also well been demonstrated that there may be real protein loss through exudation from burns, suppuration, hemorrhage, paracenteses, or albuminuria with nephrosis.

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Most authors agree that it is best to give protein by mouth, usually providing for about 2 or 3 grams of protein per kilogram of body weight. Casein hydrolysates are extremely useful in getting an adequate protein intake into patients who need it—these digests can be given orally or parenterally. Usually the administration of 375 grams of protein daily for 10 days will raise the serum protein level to about 7 grams per 100 cc. Whole blood and plasma are frequently used with success as protein replacements.

In addition to polyvitamin mineral therapy, and adequate protein intake, carbohydrate administration is also considered. It is particularly valuable for its protein-sparing action.

In summary, the healing of an accidental or surgical wound is dependent on both local and systemic factors. Enzymatic debridement and the influence of wetting agents on standard antiseptics merit further study. Adequate amounts of protein, vitamins, minerals and carbohydrates are considered very essential. Protein, in the form of a casein or other hydrolysate, is rapidly earning a niche for itself in medicine. There is still room for improvement—especially in the oral hydrolysate form—but indications are that this disadvantage can be overcome.

Those who are interested in developing products in this field might find it well worthwhile exploring the literature further.

High Blood Pressure

(Continued from page 331)

White[21] feels that barbiturate preparations should not be combined with other remedies. He also emphasizes the possible dangers of the barbiturates, particularly their tendency to induce habituation. The bromides and chloral hydrate, he notes, continue to be useful for sedation and hypnosis—a view shared by others treating hypertension.

Although a few remnants still persist, most of the older ideas concerinng diet in hypertension, especially with regard to restrictions on meat and salt, have been discarded. There is little evidence that diet influences blood pressure. Protein and salt should be restricted only in the diets of those who have renal or myocardial failure. Reduction of caloric intake is definitely indicated for overweight hypertensive individual, because obesity is known to place an additional strain upon the heart.[3] Tea, coffee, alcohol and tobacco may be taken in moderation and should be restricted only if they serve as stimulants.

Although no specific dietary therapy has stood the test of clinical study,[5] reports on the value of special diets still appear occasionally in the medical literature. Quite recent is the so-called rice diet described by Kempner.[27] The basic diet used consists of rice, fruit juices, sugar, iron and vitamins. The method has been employed in the treatment of 150 patients and was found beneficial in 109 cases or 73 per cent. Although this diet has proved helpful, it is monotonous, does not

taste good, must be continued for long periods and requires hospitalization until the patient becomes "regulated."

Consideration of nutrition naturally brings up the status of vitamins in the treatment of hypertension. Considerable interest has been centered around vitamin A ever since 1940 when Govea Pena and Villaverde[28] of Cuba reported the beneficial results obtained from the use of this nutritional factor. They had observed a marked reduction in blood pressure in a patient being treated for kidney stones with large doses of vitamin A and decided to test this phenomenon on more patients. Doses in the order of 180,000 units were given initially, followed by maintenance doses of 90,000 units daily. In a series of 65 hypertensive patients, considerable reduction in blood pressure was obtained, accompanied by relief of associated symptoms, in all but four cases.

In corroboration of these clinical studies, Wakerlin and his associates[29, 30] reported experiments on the treatment of induced renal hypertension in dogs with vitamin A concentrates. Administration of the vitamin succeeded in reducing the pressure even in the presence of restricted blood supply. However, the mechanism by which the vitamin reduces blood pressure remain obscure. Of definite interest was the fact that none of the animals showed any evidence of toxicity despite the high doses of vitamin A given.

In 1943, Villaverde[31] made an evaluation of vitamin A therapy based on results obtained with 100 hypertensive patients. In 25 per cent of the cases the blood pressure was reduced and symptoms disappeared; in another 50 per cent of the cases definite but not complete improvement was observed, while the remaining 25 per cent showed no improvement. He stated that this form of treatment appears to be harmless and may be safely continued for many months if required. It may be combined with other forms of therapy suited to the patients' needs. Similar beneficial results and the advantages of vitamin A therapy were reported by Pond and his coworkers.[32]

Unfortunately others[33, 34] have not obtained comparable beneficial results from vitamin A therapy of hypertension. Some workers[35, 36] feel that the evidence for a depressor action of vitamin A in human beings and even in animals is far from being established. In their opinion the agent responsible for the observed reductions in blood pressure is not derived from vitamin A but probably resides in some other constituent of fish oils which happens to be concentrated in commercial preparations of the vitamin.

There is proof that in animals, at least, a direct relationship can be shown between certain of the vitamin B complex factors and a high blood pressure. Calder's[37] experiments have shown that a deficiency of the heat-stable fraction of the vitamin B complex produces a significant and persistent rise in blood pressure. This rise could be combatted successfully by restoring these fractions to the diet.

The work of Davis and Poser,[38] though also of a pre-

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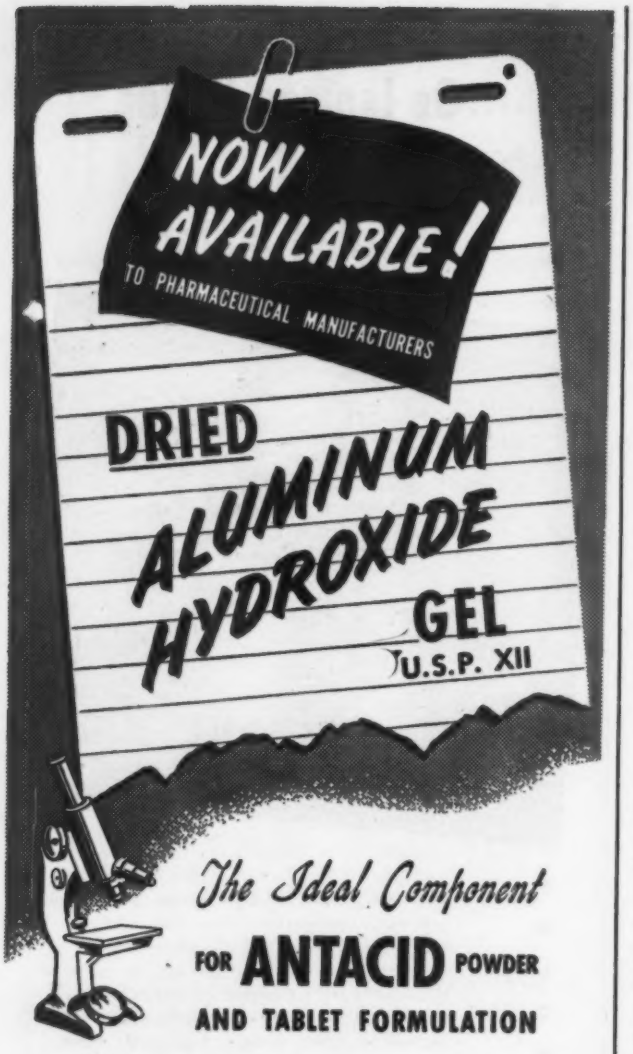

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liminary nature, indicates that large doses of vitamin C may be of value in treating essential hypertension. They reported that the administration of ascorbic acid in doses of 1 Gm. daily to a small number of patients with high blood pressure causes subjective or objective clinical improvement, or both, in almost all of those to whom it was administered.

Of related interest is experimental work by Schwarz and Zeigler[39] with vitamin K. They have shown that the parenteral administration of vitamin K to hypertensive rats caused a significant lowering of the blood pressure. The results were interesting enough to suggest that therapeutic trial, under careful supervision, might well be worth while in human hypertension.

Many drugs, other than sedatives, have a more or less useful role in treating high blood pressure. Prominent among these agents is the nitrite group which lower blood pressure by peripheral vasodilatation.[26] Sodium nitrite, one of the more familiar members of this group, has been used in hypertension, but its action is quite fleeting; lasting only from one to 2½ hours. To prolong the nitrite effect, various organic nitrates have been developed, their therapeutic action depending on the release of the nitrite ions in the body. Probably the most important of these compounds are erythrityl tetranitrate and manitol hexamitrate. Studies of blood pressure responses of hypertensive persons to the nitrites have shown that the action time of sodium nitrite is from 60 to 150 minutes, that from erythrityl tetranitrate is from 180 to 300 minutes, while that from mannitol hexanitrate lasts from 240 to 360 minutes.[40]

Sooner or later in the course of his disease, note Goodman and Gilman,[40] the hypertensive patient is placed on a trial period of therapy with vasodepressor drugs, with the nitrites, preferably the longer-acting ones, being most commonly used. However, tolerance develops to these drugs with the continued use of any member of the group. Larger doses must be taken to produce comparable effects until a stage is reached where dangerous blood changes may occur. Using the smallest effective dose delays this tolerance. It is also advised that nitrites should not be prescribed for more than two or three weeks at a time, but rather that they be alternated with other drugs; the sedatives being preferred.

Although sodium and potassium thyiocyanate have found considerable acceptance for the symptomatic relief of hypertension,[2, 36, 41, 47] some clinicians[48, 49] mention these drugs only to condemn them for their toxic tendencies. With definite hypotensive action in many patients with high blood pressure, the thiocyanates are not innocuous drugs and a number of deaths have followed their use.[40, 50] Recognizing the dangers inherent in the use of thiocyanates, authorities stress the necessity of careful regulation of dosage and the need for periodic examination of the serum level of the drug. Of importance in this connection is the fact that the maintenance dose required to obtain hypotensive effects without untoward side-reactions varies widely from patient to patient and may fluctuate from time to time

in the same individual. When given with due precautions, the thiocyanates have proved highly effective in ameliorating the symptoms of hypertension in a fairly high proportion of cases. Various methods of administration have been proposed. An official Elixir of Sodium Thiocyanate is available, but some prefer to prescribe suitable enteric coated tablets.[51]

During recent years considerable interest has been aroused in the use of kidney extracts because of the striking results obtained in certain cases of hypertension. Much experimental and clinical work has been done and quite a number of very indicative reports have been published.[52, 57] As recently summarized by Massie,[56] the possibility of developing this therapeutic method for reducing blood pressure rests upon the discovery in the kidneys of animals and man of a substance called "renin." This, combining in the blood stream with a chemical designated as an activator, produces a third substance which has a pressor action and has been named "angiotonin." The kidney also produces a substance which apparently counteracts angiotonin, lowering blood pressure in hypersensitive animals. When a kidney becomes diseased, however, its secretion of renin is believed to overbalance its secretion of this inhibitor of hypertension. As a result, an excessive amount of angiotonin subsequently raises the blood pressure. This observation has led to the preparation of kidney extracts which appear to produce their antipressor action at least partly through their ability to neutralize angiotonin.

These extracts have held considerable promise. Despite much brilliant work, however, hope of successful therapy with renal extracts has not yet materialized[51] and treatment with kidney extracts must be considered still in the experimental state.

Another comparatively new medical treatment of high blood pressure on the theory that the disease, ischemic renal tissue, being deprived of adequate oxygen, fails to deaminize the amines and since the amines are pressor substances, their accumulation in the blood results in hypertension. Therefore, it has been suggested that amine oxidase be given to correct this condition. Tyrosinase has been tried by some workers and quinones by others. In experimental studies on animals, the effects of such materials have been quite striking, but their value in human hypertension must still be demonstrated.[49, 50]

That the blood pressure lowering effect of tyrosinase, notes Massie,[56] is due to enzymic activity is open to question in view of observations that heat-inactivated tyrosinase proportions are as effective as active ones in reducing blood pressure in hypertension. He suggests that the effects and reactions obtained with tyrosinase resemble those which may be expected after injection of nonspecific protein.

Of the many empirical remedies employed in the treatment of high blood pressure, a few, such as watermellon seed, extract of mistletoe and garlic, still find some use in modern therapy. Of these, garlic is perhaps the most interesting; its use in medicine going

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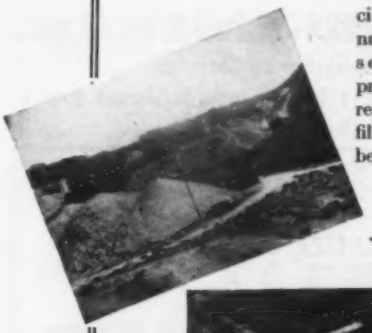

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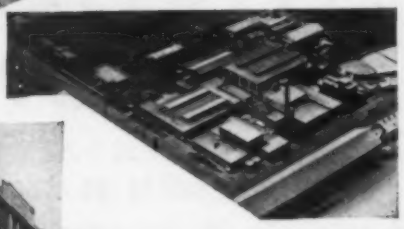

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back for many centuries. Although there is some doubt as to its value,[58] there is published laboratory and clinical evidence regarding its efficacy as a hypotensive agent.[59, 60, 61] In view of the many discoveries concerning garlic and its botanical relations being reported in the scientific literature, there may be more than mere empiricism in the use of this material in hypertension.

Another mode of attack on the problem of hypertension has been by means of surgical intervention. In addition to nephrectomy[62], based on the work of Goldblatt and his associates on the kidneys, various types of operations on the sympathetic nervous system have been devised for the treatment of hypertension.[3, 63, 67] Although good results have been obtained in a significant number of cases, opinions on the value of surgery on essential hypertension are divided. Flaxman,[65] after a comparison of mortality statistics of patients treated by surgical methods and those treated medically, came to the conclusion that there was little difference between the two types of therapy. In his opinion, it is doubtful whether so-called specific surgery alters either the course or prognosis of hypertension.

While the cause of hypertension still remains obscure and treatment not too satisfactory, there is reason for optimism. Much work is being done, much has been learned concerning the mechanism of hypertension and the trend toward more specific therapy is becoming increasingly evident.

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Department Store Cosmetic Sales

(Continued from page 323)

big city markets, is a matter of conjecture. Percentual sales increases do not imply necessarily larger volume. Too, it must be considered that, even with their sales growing at a faster rate, the smaller city market does not produce the highest sales ticket.

To take fall figures for an example the average gross cosmetics sale of the department store of the smaller city produced $1.55 against the $1.84 ticket of the $5,000,000 to $10,000,000 store and the $1.76 of the above $10,000,000 volume store. Square foot sales amounted to $108 in the smaller stores and to $156 and $192 in the two larger store groups. However, department stores in the smaller cities are generally more generous with their space allowance for their toilet goods counters. They often play a larger part in attracting floor traffic than in the big city stores.

Additional guidance for solving this problem of the manufacturer may be found by looking at the so-called "Goal" figures of the report. The goal figures are so named because they show, in a manner of speaking, what stores can hope to attain if they follow the example of the best store performance average within their group. During 1944 the smaller store group showed a top average sales ticket of $1.70 while the two upper size store groups turned in tops of $2.25 and $2.09 respectively. All three were outdistanced by the $2.95 performance of one, or several, specialty stores. Correspondingly the best sales per square foot performance of the lower volume stores was $166 as against a $286 sales volume of both of the largest store groups. Again, some specialty stores came along with an all-high of $366 for their toilet goods departments ($181 above the average for all specialty stores in 1944 and $144 above the year 1943).

The question may be reasonably asked: If some store can turn in performances as high as those quoted, Why not all? What can the cosmetic industry do to raise performance averages in the small cities?

Not all but part of the answer is found by a study of the operation practices of the analysed stores as they express themselves in their percentual effect upon the sales result. Administrative expenses are comparatively high in the case of toilet goods. On the other hand, their small size makes for a low degree of occupational space costs, as stock room charges, etc.

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As the volume of toilet goods sales has grown almost without effort, in the opinion of many store executives, there has been a tendency in the case of many stores, large and small, to cut down on advertising expense. This does not mean that stores have severely reduced their total advertising on behalf of their toilet goods counters. Yet, instead of maintaining a steady level of the "per cent-to-total" of advertising expense the ratio of advertising cost to total sales volume has been reduced. Newspaper costs, which were 1.8 per cent of total sales in 1943, were 1.6 per cent in 1944 and there is evidence that this tendency will continue in the current year. Total publicity which was 3.3 per cent of total in 1943 was 3.0 per cent in 1944.

One reason, probably, why the smaller stores, those presumably serving the smaller city markets, are turning in a better sales performance today than their comparatively larger city competitors is that the smaller stores, those within the $1,000,000 to $2,000,000 volume range, have increased their advertising "cost-per cent-to-total sales" while the larger units have been inclined to make savings. Newspaper cost-to-total, in the instance of the smaller units, rose from 1.6 per cent of total to 1.8 per cent while the two larger volume unit stores record a drop from 1.8 per cent to 1.7 per cent and 1.5 per cent to 1.4 per cent, respectively. However, these figures must be taken with a grain of salt. Profits of operation are in the saddle; frequently against the more pressing need of building a solid foundation for growing sales volume for the all-important post-war years. In addition, the widespread practice of "cooperative advertising" in this industry is undoubtedly reflected in these figures.

No change has taken place in the cost of buying but stores, generally, have been compelled by force of circumstances to reduce their sales personnel. This, in turn, has had the effect of reducing the "cost-per cent-of total" of the human factor in selling toilet goods. The actual decline for all the store is comparatively insignificant with a 0.1 drop from 1943 to 1944. However, there are tell-tale variations. The very small stores, those with sales below the $1,000,000 mark, report a decline from 7.2 per cent to 6.7 per cent. Those in the $1,000,000 to $2,000,000 annual volume class dropped 0.3 per cent from 5.2 per cent in 1943, to 4.9 per cent in 1944. Comparatively insignificant changes took place in the already very low figures of the upper groups of stores where averages reached 3.5 per cent and 3.4 per cent for 1944 respectively. There are two exceptions, though, to this rule. $2,000,000 to $5,000,000 stores report a rise from 4.6 per cent to 5.00 per cent in the cost-to-total of their sales personnel and specialty stores, conscious probably that exceptional conditions require exceptional personnel, raised their personnel cost average from 4.9 to 6.1 per cent.

It is worthwhile pointing out that the specialty stores, with their high sales personnel salary ratio, reported for 1944 the second largest sales increase, the highest average sales ticket, the second largest sales per square foot and the highest individual perform-

ances as to size of transactions and square foot returns among the "goal" figures of the report. If it is added that the specialty stores, with their high salary average, also spend most on advertising in proportion to their sales volume there is reason aplenty why the cosmetic industry should pay increasing attention to this type of store. This applies especially to the thousands of small cities where the specialty store, with its heavy concentration upon womens' fashion accessories, apparel and intimate wear, reaches frequently the best type of women customer of the town.

Because women have done more of their own carrying, delivery costs of toilet goods departments have declined. Total selling expenses remained 6.8 per cent while the total operation expense of toilet goods counters dropped from 25.3 per cent to 24.7 per cent.

Profits experienced another boost from the 11.7 per cent of 1944 to 12.5 per cent of 1944. The highest profit ratio was obtained by stores within the $5,000,000 to $10,000,000 volume group. The lower volume store groups matched approximately the average while top volume stores were lowest amongst the department stores, with 11.4 per cent. Because of their growth of operation costs the specialty stores reported an average profit (before taxes) of only 10.1 per cent.

How do these figures bear upon the future of the cosmetic business of the department stores? Department store men point to the operation results of related departments and the stores as a whole for an answer. To quote one example only, the neckwear and scarf department, highly sensitive to fashion influences, where supplies have been well maintained through the year. Neckwear sales rose 16 per cent against a 14 per cent of cosmetics. Sales transactions, however, remained as in 1943 against a 10 per cent rise of cosmetics. Sales per square foot of neckwear selling space were $140 against the $153 of the cosmetic department. Neckwear contributed 1.4 per cent to total store sales, cosmetics 3.4 per cent. Neckwear publicity to sales volume was 3.1 per cent; that of the cosmetic counters 3.0 per cent. Average sales people's salaries were 6.3 per cent for the neckwear counters and 4.2 per cent for the cosmetic counters. Profits of the neckwear counters were 13.8 per cent, those of the cosmetic counters 12.5 per cent.

As to total store performance toilet goods counters operated all through the year well above store averages.

This may bring changes. It is too early yet to say what they will be in view of the new situation that has been created by the sudden collapse of Japan. However, buyers of cosmetic departments generally hold that the end of the war will not be of real bearing upon their counter policies. Executives hope that they will be able to expand their sales by absorbing the new volume that is expected to accrue from the return of the "war depleted" departments without "crowding" departments which have satisfactorily performed through the emergency and hold good prospects for continued growth. Among these, cosmetics are near the top.

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WANTED: Experienced cosmetic salesman with good connections for established and still expanding manufacturing concern. Box 764, DRUG & COSMETIC INDUSTRY.

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Situations Wanted

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